



# ***The Resonator***

**Official Newsletter of The Fair Lawn (NJ) Amateur Radio Club**

**Volume 6, Number 7**

**www.FairLawnARC.org**

**July 2021**

## **From The President**

Summer is here which means lots of opportunities to have fun with amateur radio. Contests, portable operations, hamfests... everything for everyone.

It's good to see that we are getting back to "normal" so to say and reestablishing our activities as we are used to. We expect any day now to have access again to the Recreation Center as well as the Senior Center.

In this edition of the Resonator, you will see that we have a couple of interesting ***Kawfee Tawks***; these will continue to be virtual, as some of our presenters are not in the immediate area, so we must still take advantage of their ability and desire to share their knowledge with us.

Many have been asking "When are we going to have a Technician Class?" Well, I am pleased to announce that on July 31st and August 1st., FLARC will host a class for the Technician License. Our

Continued on page 67.

## **New Member Profile**

NAME: Roy Simpadian

CALL: KD2VMX

### **What do you do/what did you do for a living?**

I am currently an IT Consultant – Managed Services for small business in the NYC and North Jersey Area.

Network Administration, Web Design / Maintenance & Optimization, Break/Fix, Disaster Recovery, Security.

### **How did you get interested in ham radio?**

Back in the day, I used a CB radio with my father growing up. I always was looking for ways to improve my range and coverage. So, I saw that with Amateur Radio, I was able to obtain that, along with learning different modes, and not only have means of communications during emergencies, but also offer my services during such moments.

### **What parts of the hobby most interest you?**

Well first, I am looking forward to building my own HAM Shack, then participate in activities such as Parks on the Air, have the opportunity of meeting new people on and off the air, and in a not so distant future, attempt to contact the ISS.

### **What help or information do you need to really get started in ham radio?**

I'd really like to get into building and learning more about antennas. How to make good use of them and experimentation in different Ham Radio modes.

Continued on page 16.

## **INSIDE THIS ISSUE**

- 1 President's Message
- 1 Member Profile
- 4 ARES / RACES Report
- 3 VE License Testing
- 17 The Way We Were – Fred Belghaus W2AAB
- 53 Around the Shack – Hal Kennedy N4GG
- 70 Business Meeting Notes
- 58 SIG Report - Digital Voice Modes
- 66 SIG Report - Portable Ops
- 58 SIG Report - Radio Monitoring
- 61 SIG Report - Satellites



For FLARC membership info and renewal/application form please visit:

[membership.FairLawnARC.org](http://membership.FairLawnARC.org)

## FLARC Dues, new and renewal, (and even donations!) can now be made on-line ...

[Please note that this is a temporary improvement while Dave KD2JIP works on a real, full-fledged web page for filling out the membership/renewal form and submitting that and payment on-line.]

Payments can be made using either PayPal or Zelle.

Here's how –

### Using PayPal —

Log into your PayPal account at

<https://www.paypal.com>

At top right, select "My PayPal"

Under Quick links, select "Send Money"

In the window showing

Name, email or mobile number  
enter this email address:

[1947xyzabc1947@gmail.com](mailto:1947xyzabc1947@gmail.com)

Click on [ Next ]

Enter \$ amount you are sending, & in "add a note" area type in your CALL SIGN and which year (2020 or 2021) the dues are for, & any other explanation.

Click on [ Continue ]

Click on the [ Change ] button

Click on "Sending to a friend" link

CONTINUED IN NEXT COLUMN —>



Sending to a friend

No fee to use bank or balance to send to friends and family in the U.S.

You will see a summary of your transaction; if no changes are required, click on

[ Send Payment Now ]

to complete your transaction.

\$

### Using Zelle —

If you are using Zelle through your bank account, just send your dues to the following number: 201-240-9317

Don't forget to add in the note/message section your callsign and that it is for your 2020 and/or 2021 dues.

**OR** you can still use a good ol' Check or Money Order payable to FLARC - always put your Call Sign and "dues for 2020" (or 2021) on the check. MAIL TO:

**Bruce Kalogera, NJ2BS**  
**163 Meadow Lane**  
**Secaucus, NJ 07094**

## FLARC To Hold VE Testing On July 10<sup>th</sup> at INDOOR LOCATION

**On July 10, 2021** Fair Lawn Amateur Radio Club will continue amateur radio test sessions on a trial basis. These sessions will be held indoors.

The location is at:

The Masonic Lodge  
99 S Maple Avenue  
Ridgewood, NJ

**NOTE THAT THIS IS AN INDOOR LOCATION!**

Covid-19 related incidents will cancel testing.

### Prior to Testing:

Send an email to [wo2w@arrl.net](mailto:wo2w@arrl.net) requesting to book your spot. **Pre-registration is REQUIRED.**

### Please Bring With You:

- You **MUST** bring and WEAR personal PPE items including a face mask
- 2 pens and 2 pencils. None will be provided to you due to possible virus transmission
- Your FRN number, and (if licensed) a copy of your ham license or a valid CSCE (Certificate of Successful Completion Exam)
- A completed Form 605 (which will be sent to you ahead of your test session, along with your assigned test time. )
- Additionally, the **\$15.00 exam fee**. This is payable in cash (**exact amount is a must**)
- 3 copies of the CSCE form which will be sent to you ahead of your test session

Additional scheduled testing dates are:  
August 14, 2021 and September 11, 2021.

*FLARC is following government Covid-19 guidance closely and all events will adhere accordingly to the latest advice.*

## Pandemic Theatre

On August 10–11, 2020, a severe derecho swept across the Midwestern United States — predominately in eastern Nebraska, Iowa, Illinois, Wisconsin, and Indiana. It caused high winds and spawned an outbreak of weak tornadoes. Some areas reported torrential rain and large hail.

Damage was moderate to severe across much of the affected area, as sustained wind speeds of 70 miles per hour (110 kilometers per hour; 31 meters per second) were prevalent. The greatest damage occurred in eastern Iowa and northern Illinois, where multiple tornadoes touched down. The highest winds occurred in Iowa, measured at 126 mph (203 km/h; 56.3 m/s) and highest estimated from post-event damage surveys at 140 mph (225 km/h; 62.6 m/s).

Amateur radio played a critical part of maintaining communications during this local catastrophe.

Here is a video made of the event and activities of local hams to help in recovery.

About 1: 23 in length... worth a view especially if you are involved in EMCOMM.

<https://vimeo.com/543470305>



**The Club** Fair Lawn ARC is the fastest growing ham club around, with five operating positions in a permanent clubhouse. Visitors and guests are always welcome. The club is open every Friday night from NLT 6:30 PM. Business meetings are the first Friday of the month at 7:30PM.

#### 2021 Officers, Committees and Assignments

|                     |  |        |
|---------------------|--|--------|
| President           | Nomar Vizcarrando                          | NP4H   |
| Vice President      | John L. Howard                             | W2JLH  |
| Treasurer           | Bruce Kalogera                             | NJ2BK  |
| Secretary           | Tom McCabe                                 | N2AXX  |
| Trustee             | Ed Efchak                                  | WX2R   |
| Trustee             | Don Cassarini                              | K2PD   |
| Trustee             | Fred Wawra                                 | W2ABE  |
| Field Day           | Steve Wraga                                | WA2BYX |
| Member Services     | Judith Shaw                                | KC2LTM |
| Publicity           | Ed Efchak                                  | WX2R   |
| Publicity           | Gene Ottenheimer                           | WO2W   |
| Publicity           | Judith Shaw                                | KC2LTM |
| Publicity           | Susan Frank                                | W6SKT  |
| Program             | Lowell Vant Slot                           | W2DLT  |
| Publicity           | Karl Frank                                 | W2KBF  |
| Publicity           | Nomar Vizcarrando<br>( <i>ex officio</i> ) | NP4H   |
| Social Media        | Dave Marotti                               | NK2Q   |
| Video/YouTube       | Thom Guida                                 | W2NZ   |
| VE Liaison          | Gene Ottenheimer                           | WO2W   |
| VE Liaison          | Pete Senesi                                | KD2BMX |
| Contests            | Lowell Vant Slot                           | W2DLT  |
| Education           | Gordon Beattie                             | W2TTT  |
| Education           | Randy Smith                                | WU2S   |
| Education           | John L. Howard                             | K2JLH  |
| Education           | Fred Wawra                                 | W2ABE  |
| History             | Fred Belghaus                              | W2AAB  |
| Health and Welfare  | Judith Shaw                                | KC2LTM |
| Photographer        | Don Cassarini                              | N2PRT  |
| W2NPT Trustee       | Paul Cornett                               | W2IP   |
| Technical           | Paul Cornett                               | W2IP   |
| Technical           | Randy Smith                                | WU2S   |
| Technical           | Fred Wawra                                 | W2ABE  |
| RACES/ARES Director | Dave Gotlib                                | KD2MOB |
| RACES/ARES Liaison  | Steve Wraga                                | WA2BYX |
| Newsletter Editor   | Ed Efchak                                  | WX2R   |
| FL Town Liaison     | Gene Ottenheimer                           | WO2W   |
| Net Scheduler       | Brian Cirulnick                            | KD2KLN |
| Quartermaster       | Brian Cirulnick                            | KD2KLN |

#### Fair Lawn RACES/ARES Corner



Hello fellow ARES members and friends.

Summer is here and along with the summer comes all sorts of outdoor activities. The Northeast New Jersey ARES team (consisting of Fair Lawn ARES, Passaic County ARES and Bergen County ARES) had New Jersey covered while we participated in a very successful Field Day!!

ARES members were running a special event station on Garrett Mountain, assisting with communications at Campgaw Reservation as well as other places during Field Day.

There's a lot to be said about emergency communications practice and Field Day was a perfect opportunity for that.

I would like to thank the NENJ ARES members and Fair Lawn RACES members who volunteered for Fair Lawn Fireworks Night on Tuesday, July 6th at Memorial Park. These members assisted FLARC with many of the organizing activities including radio communications, of course. These volunteers worked hard for several hours on Fireworks Night. The attendees had a blast and it was dynamite.

Here's an upcoming ARES event to look forward to - On Saturday, July 17th between 10:00 AM and 10:15 AM please tune your radio to 146.535 MHz simplex. If you are in Fair Lawn or near Fair Lawn at that point in time, I'd like to hear you!! A communications distance check will be observed and your location will be noted. More information will be discussed as we get closer to that date.

Continued on page 5.



### **Fair Lawn RACES/ARES Corner, cont.**

The NENJ ARES Net takes place every Wednesday at 8:00 PM, which is the same time slot and uses the same frequencies as the FL-ARES Net. The new ARES Net combines FL-ARES with Bergen County ARES and Passaic County ARES for one weekly Northeast NJ ARES Net. It has come to our attention that combining the Nets would provide greater interest (check-ins), more emergency communications discussion and messaging during one timeframe versus three separate dates and times. Sure enough it has!!

I would like to thank Aly ALØY, Ed KD2TVZ and Jim N2JLF for being the Net Control Operators (NCO) or alternate Net Control Operators (ANCO). We sent practice and live Radiograms over the last month and I would like to thank Aly ALØY and Hank WA2CCN for sending the Radiograms. Job well done!!

I'd like to direct you to a great website which gives us access and information for our training sessions –

<https://harriscountyares.org/training/training.php>

Everything from knowledge based training to safety, weather and messaging is included on this website. When you have the opportunity, please check it out.

Our Nets are open to all amateur radio enthusiasts. Our ARES members, who are volunteers, are able to assist anyone with answers to questions they may have regarding

### **Fair Lawn RACES/ARES Corner, cont.**

emergency communications. Also, our Nets include members who are not only a part of Fair Lawn ARES, the nets consist of members from Bergen County ARES, Passaic County ARES, Gloucester County ARES and Wayne County ARES as well.

Please note the time of the New NENJ NJ ARES Net (KB2FLA Net).

It takes place on Wednesdays at 2000 hours on the FLARC and NJ2BS Repeaters. Maybe one day the NJ2PC Repeater will be connected as well. Please join us every Wednesday for any updates, messages or activities which may take place. We are on the following Repeaters and Echolink: The Fair Lawn ARC Repeater info is: RX 145.47 MHz / TX 144.87, PL Tone 167.9 Hz.

Echolink W2NPT-R. The NJ2BS Repeater info is: RX 146.835 MHz / TX 146.235, PL Tone 151.4 Hz.

Echolink KD2BKD-L. FL-ARES would like to thank the FLARC for the use of its repeater as well as the Venture Crew 7373 Club for the use of their repeater.

We are fortunate to make Fair Lawn and the surrounding communities our home. With our leadership and support from the FLARC we can grow and be of assistance in many community events. We are always seeking new members to join FL-ARES. Info on FL-RACES is as follows:

Our next FL-RACES KB2FLR net will take place

Continued on page 67.

# **The Clubhouse Will Re-Open In July ! Welcome Back!!**

## 2021 FLARC Kawfee Tawk Programs

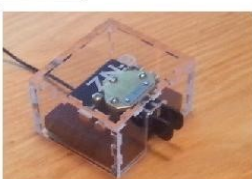
| Date                         | Presenter                   | Program   |
|------------------------------|-----------------------------|---|
| Friday, January 15, 2021     | Lauren Libby W0LD           | Trans World Radio/Operating A Super Station           |
| Friday, February 19, 2021    | Ed Efchak WX2R              | The FLARC Member Survey                               |
| Friday, March 29, 2021       | Otis Vincens NP4G           | INDEXA  |
| Friday, March 12, 2021       | Dave Snyder KD2VGT          | Pico Balloons, Ham Radio, and Seton Hall STEM         |
| Friday, April 16, 2021       | Wayne Smith WB2ONZ          | Amateur Radio and The Civil Air Patrol                |
| Friday, May 14, 2021         | Bob Holstrom KD2BKD         | Setting up DUDE-Star for Digital Voice Communications |
| Friday, May 21, 2021         | Roland C Luetzelschwab K9LA | Propagation and Cycle 25                              |
| Friday, June 11, 2021        | Barry Feurman K3EUI         | Sound Card Digital Modes                              |
| <b>Friday, July 16, 2021</b> | <b>Neil Goldstein W2NDG</b> | <b>Today's Kit Industry –Build Your Own Radio!!</b>   |
| <b>Friday, July 23, 2021</b> | <b>Barry Feurman K3EUI</b>  | <b>EMCOMM Needs For Digital Modes</b>                 |
| Friday, August 13, 2021      | Charlie Cebula AC2ZU        | The Story of Project Diana                            |
| Friday, August 20, 2021      | Larry Van Horn N5FPW        | Listening to Military Aircraft via Satellite          |
| Friday, September 10, 2021   | Brian Cirulnick KD2KLN      | Setting Up A Solar Powered Station (Tentative)        |
| Friday, September 17, 2021   | Clint Bradford K6LCS        | How to Work Amateur Satellites with Your HT           |
| Friday, September 24, 2021   | Ria Jairam N2RJ             | Amateur radio in Trinidad and Tobago                  |
| Friday, October 15, 2021     | Kent Britain WA5VJB         | All You Need To Know About Yagi Antennas              |
| Saturday, November 6, 2021   | Barry Feurman K3EUI         | Beginner's Look at the Nano VNA                       |
| Friday, November 12, 2021    | Tom Abazia KB2ESE           | Building an SDR Transceiver                           |
| Saturday, November 13, 2021  | Barry Feurman K3EUI         | Under the Hood of a Nano VNA                          |
| Friday, November 19, 2021    | Tom Perera W1TP             | SPY Radios and CIA Bugs                               |
| Friday, December 10, 2021    | Bob Antoniuk N2SU           | The History of Callsigns                              |
| Friday, December 17, 2021    | Rich Moseson W2VU           | Thoughts About Growing Amateur Radio                  |

# WWW.GIFTS4HAMS.COM

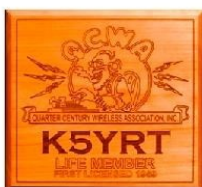
*EVERYTHING ENGRAVED FOR THE HAM STATION*



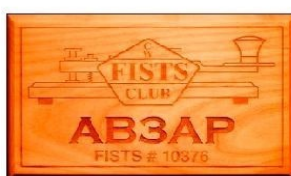
LED SIGNS  
CLUBS,  
ORGANIZATIONS  
& CUSTOM



KEY COVERS  
ALL MAKES AND MODELS  
BEGALI, N3ZN, VIBROPLEX  
KENT, CUSTOM KEYS, ETC.



LASER ENGRAVED  
WOOD PLAQUES, CLUBS  
SHARED SHACK



*PLUS MANY MORE ITEMS !*



Hidetsugu Yagi's 130th Birthday Google Doodle

## SIG Group Participation as of June 27, 2021

Here is an update on the roster of Special Interest Groups...all groups have increased in size during the last month:

|               |     |
|---------------|-----|
| Digital Voice | 32  |
| Monitoring    | 23  |
| DX            | 16  |
| FT8           | 18  |
| Satellite     | 15  |
| FLARC General | 155 |

Sign up for a group... or ...  
why not start one?

Contact [webmaster@FairLawnARC.org](mailto:webmaster@FairLawnARC.org)  
if you would like to start a new  
Special Interest Group.

## Follow FLARC ON THE WEB

Facebook: <http://facebook.FairLawnARC.org>

Twitter: [@FairLawnARC](https://twitter.com/FairLawnARC)

Blog: <http://blog.FairLawnARC.org>

Youtube: <http://youtube.FairLawnARC.org>

Website: <http://FairLawnARC.org>



***"Today's Kit Industry: Build Your Own Radios!"***

*A tour of the radio kit market, and some tips and tricks for acquiring and building old and new kits*

**2021 FLARC July 16<sup>th</sup>**  
**"Kawfee Tawk" Series**  
**Neil Goldstein W2NDG**

Neil Goldstein W2NDG has been tinkering with radios since the early seventies when he used to hang out in his uncle's ham shack in Connecticut (W1PVC/SK).

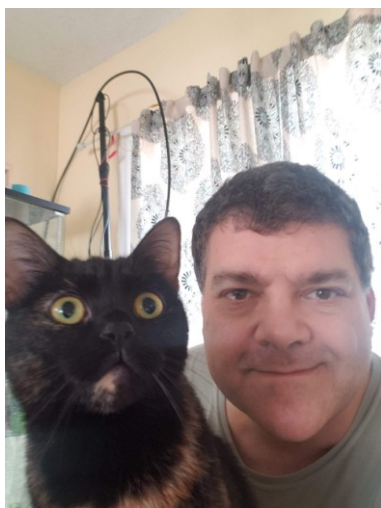
These days he can be found in the Hudson Valley and Catskill Mountains with a QRP radio, or sitting at his workbench amidst a cloud of solder smoke. After first getting licensed in 2011 as KD2APZ, he started looking for ways to merge his two hobbies: computers and radio. Now, a holder of an Extra Class license, he experiments with SDR, rig control, digital modes, and has a well-used soldering iron.

He has been an SWL for most of his life, and finally decided to get his license in August of 2011. His better-half, KD2CHE, is also a ham.

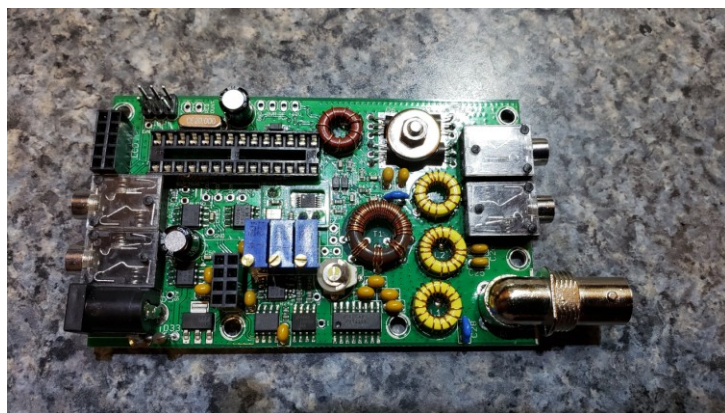
Nori, their monster Tabby Cat, that was displayed here before, passed in the Fall of 2014. He will be missed.

Neil works as an IT systems manager at a cancer research institute. He is active in the OMARC and QSY Society clubs, has written for AmateurRadio.com as well as The Spectrum Monitor, and frequently presents at various club meetings on computer-related subjects.

Neil maintains **radiokitguide.com**, the complete list of radio kit sources on the Internet.



Nori (SK) and Neil W2NDG



Kit example





## Reviews And Views

### 2021 FLARC June 11<sup>th</sup> "Kawfee Tawk" Series

It is not often that FLARC Kawfee Tawk Speaker Series presenters get reviews such as "scintillating," "captivating," "charismatic" and "...you could have gone on and ON. Mesmerizing and the musical analogies were great."

But that summarized the reviews by many members who attended Barry Feierman's K3EUI June 11th presentation "Beyond FT8: A Basic Overview of Digital Modes and Trade-Off's."

With nearly 50 members and guests in attendance, he provided an overview to setting up for digital modes, the types of modes out there besides FT8/4, examples of audio from these modes, types of sound cards available and getting things to work.

Barry is a former teacher by trade, and it showed. Weaving facts, examples, and sound together around analogies and anecdotes, Feierman is a great storyteller, and one cannot help believing he has created excitement within the club for other WSJT-X modes such as Olivia and Thor.

The full presentation is available on the FLARC YouTube video channel.

<http://youtube.FairLawnARC.org>

Barry is also unique in reaching out to members both ahead and after his presentation to provide a great overview to the evening itself.

Our presenter had far more material than time and, in a first for FLARC, we invited him back to continue his discussion during the presentation!! Put July 23rd on your calendar and stand by for another great evening from a marvelous speaker. Thanks Barry!!







## AMATEUR RADIO TESTING BY THE FAIR LAWN AMATEUR RADIO CLUB

On July 10, 2021 the Fair Lawn Amateur Radio Club will continue amateur radio test sessions on a modified basis.

These sessions will be held at the **Ridgewood Masonic Lodge**.

**The location is at 99 South Maple Avenue, Ridgewood, NJ**

The session starts at 9:15 AM.

**A document will be provided to you prior to the date to indicate the time assigned to you.**

You must have it with you to take the test.

### Prior to Testing:

Send an email to [wo2w@arrl.net](mailto:wo2w@arrl.net) requesting to book your spot.

**PRE-REGISTRATION IS REQUIRED - NO WALK-INS ACCEPTED.**

### Upon Arrival:

You must have a government issued ID such as a valid driver's license or passport, a filled out Form 605, and **3 filled out copies of the FCC CSCE form**.

### Please Bring With You:

- You **MUST** bring and **WEAR** personal PPE items including a face mask.
- 2 pens and 2 pencils. None will be provided to you, due to possible virus transmission.
- Your FRN number, and (if licensed) a copy of your ham license or a valid CSCE (Certificate of Successful Completion Exam).
- Additionally, the **\$15.00 exam fee**. This is payable in cash (exact amount is a must).

## Did You Ever Want to Be a Profile in *The Resonator*?

Our monthly newsletter is looking for members who have not yet been profiled, before the series ends in December and we switch to another format.

October, November, and December are spoken for, but August and September are still available.

Drop a note to Ed WX2R and volunteer!

Thanks!

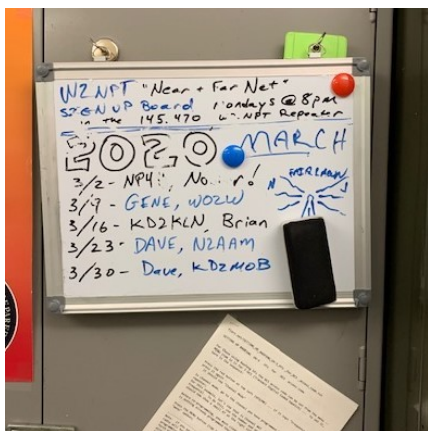
**Special Note:** *As non-profit, the IRS now requires that we disclose annually the use of paid lobbyists to our members and indicate approximately what percentage of their dues goes toward that. 0% of your 2021 dues payment will be used by the club to directly pay a lobbyist firm to lobby on behalf of all our members regarding pending legislation that impacts our hobby.*

## The Way-Back Machine

The clubhouse looks much the same as we left it in March of last year. Brian KD2KLN was the last net control for the *Near and Far Net* before lockdown occurred. The *Health and Welfare Net* started soon afterwards. See you back at the clubhouse in July!

Remember:

- Please mask up if unvaccinated or want peace of mind.
- Social distancing is encouraged at all times.
- Masks are optional for fully vaccinated members.



## Please Note: Operating at W2NPT

Starting in January 2019 club trustees have sign-in sheets for all operating positions. There is a clipboard at Operating Position #1, #2 (digital) and #4 with a form on which to sign up for half-hour time slots. No longer first come-first served, in fairness to all who want to use our club equipment and the new antennas. Hopefully some day we will again be able to use our operation positions!

## Get Direct With FLARC!

Here is a direct link to specific club info: just a click away!

<http://apparel.FairLawnARC.org>  
<http://auction.FairLawnARC.org>  
<http://blog.FairLawnARC.org>  
<http://calendar.FairLawnARC.org>  
<http://events.FairLawnARC.org>  
<http://exams.FairLawnARC.org>  
<http://facebook.FairLawnARC.org>  
<http://news.FairLawnARC.org>  
<http://swap.FairLawnARC.org>  
<http://tech.FairLawnARC.org>  
<http://youtube.FairLawnARC.org>

**NEW !**

<https://groups.io/g/FairLawnARC>



## Online License Testing!

Are you looking to get your license or upgrade without leaving your home? All you need is a laptop computer with a video camera.

There are number of sites listed on [hamstudy.org/sessions](http://hamstudy.org/sessions) These folks will walk you through taking an exam online.

I have worked with both WB5QNG and AA7HW. If you have any questions, please contact me at [mStevenk2sab@gmail.com](mailto:mStevenk2sab@gmail.com)

73,  
Steven Boston K2SAB

## July 2021 *Near and Far* Net Controls

Here is the roster for net controls for the upcoming month as reported by Brian KD2KLN:

| Date    | Net Control |
|---------|-------------|
| July 5  | NP4H        |
| July 12 | KD2MOB      |
| July 19 | KD2KLN      |
| July 26 | N2AAM       |
|         |             |

But we need more volunteers to be net controls -- if everyone takes their turn it's less burden on the others. And it's easy.

Volunteer --- don't wait to be asked  
(unless you really want to be flattered).

## Ham Radio Is Contagious And It Won't Make You Sick!!

## Renewing Your Dues Via the Internet Is Coming

Later this month the Club will be offering the ability to pay your dues on-line via either Paypal or Zelle.

Details regarding the process will follow via email and through announcements on groups.io.

Separately, as has been mentioned in previous newsletter editions, the Club will cancel all memberships that have not renewed for 2021.

At the end of June, the Treasurer will place all those who are unpaid on an 'Inactive' list with a July 1<sup>st</sup> email letting them know of their non-member status.

## Club Apparel — Get Them While They're **RED**!

Club apparel is always in vogue. Red is always "in" and your club friends all have them... you *want* a shirt or jacket for the next FLARC event! Great for Field Day!

Don't forget.... they're easy to order.

Go to [www.hamthreads.com](http://www.hamthreads.com)

or visit <http://apparel.FairLawnARC.org>

**Check out the item selection that is posted on the FLARC website (with pictures and prices).**

Order the shirts or other items you want with either the regular FLARC logo or the still-cool 60th anniversary logo. Note: **RED** is the primary and preferred club standard shirt color.



Thom W2NZ behind the camera  
at the clubhouse in 2019

## 2021 FLARC Nets On The W2NPT Repeater:

*Near and Far Net Mondays at 8PM*

*Health and Welfare Net Wednesdays at 7PM*

*W2NPT and NJ2BS Repeaters*

## Help Wanted

The Publicity Committee is looking for some new members to help continue to improve the marketing and promotion of the club, it's activities and amateur radio. This is an active group so a willingness to participate is a strong plus. Experience in digital marketing and/or public relations is a plus.

Call Ed WX2R at 802-282-6700 or email him at [wx2r@arri.net](mailto:wx2r@arri.net) if you're interested.

**Remember:  
Ham Radio Is A Contact Sport!**

### BEQUEATHS AND DONATIONS

Planned gifts usually imply the family donation of amateur equipment to the club when someone has become a Silent Key. But it can be more. Club members might consider making a gift through a will or trust; gifts that help provide lifetime income to the club. Consult with your lawyer, estate planner or tax advisor if you feel such a gift is worthy.

## About The Club

*The Resonator* is published monthly and is the official (and only) newsletter of The Fair Lawn Amateur Radio Club. FLARC was established in 1956 and has met continuously since inception. **The club is sponsored by the Borough of Fair Lawn.** The club meets every Friday at 6PM at the club station in The Fair Lawn Community Center, 10-10 20th Street, Fair Lawn, NJ. Business meetings are the first Friday of the month at 7:30 PM, on Zoom for now.

Visitors **ARE ALWAYS** welcome at our meetings.

FLARC operates the W2NPT repeater (145.470-PL 167.9) located high atop the Community Center. The analog repeater is open to all amateurs for use without restrictions.

The club has over one hundred fifty paid members. Dues are currently \$25 per year;  
\$20 for new members.

*Content and opinions expressed by contributors do not necessarily reflect the policies of the Fair Lawn Amateur Radio Club, its Officers or members. Contributors grant express permission to FLARC to distribute articles in this or any issue of The Resonator. Authors also grant express permission for the use and/or repurposing of these articles, in part or in full, in other publications with credit to the original author and to The Resonator. All material is copyright ©2020. Do not copy or reproduce any of this material without the written permission of FLARC.*

**A Net Is Born and continues to grow!**

**The Health and Welfare Umbrella Net  
Wednesdays  
7PM Local  
W2NPT and NJ2BS Repeaters  
Open To All**

## PUBLICITY COMMITTEE NEWS

The Publicity Committee is seeking new members to help grow the club with its varied activities. Enthusiasm desired... no experience necessary. Contact Ed WX2R or any other committee member.



**FAIR LAWN'S  
COMMUNICATIONS CENTER!  
With New Antennas On The Roof!**



## Past FLARC Member Profiles

Here is a list of past member features and we welcome your recommendations for new profiles -- including your own.

| Month        | Name           | Call Sign       |
|--------------|----------------|-----------------|
| January 2016 | Pete           | KB2BMX          |
| February     | Marco          | KC2ZMA          |
| March        | Ron            | KC2TBD          |
| April        | Kai            | K2TRW           |
| May          | Larry          | WA2ALY          |
| June         | Dave           | N8MAR           |
| July         | Steve          | WI2W            |
| August       | Thom           | W2NZ            |
| September    | Brian          | KD2KLN          |
| October      | Brad           | KM2C            |
| November     | Al             | WA2OWL          |
| December     | George         | W3EH            |
| January 2017 | Fred           | W2ABE           |
| February     | Dave           | KD2MOB          |
| March        | Randy          | WU2S            |
| April        | Lee            | KD2DRS          |
| May          | Gene           | WO2W            |
| June         | Carol          | KD2NMV          |
| July         | Kevin          | KC2KCC          |
| August       | Robert         | KD2NOG          |
| September    | Robert         | KD2BKD          |
| October      | John           | KD2NRS          |
| November     | Fred           | W2AAB           |
| December     | Margaret       | W2GB            |
| January 2018 | Brian          | KD2OAZ          |
| February     | Bennett        | KO2OK           |
| March        | Van            | W2DLT           |
| April        | Aly            | ALØY            |
| May          | Bruce          | NJ2BK           |
| June         | Dave           | N2AAM           |
| July         | Karl and Susan | W2KBF and W2SKT |
| August       | Steve          | KA2YRA          |
| September    | Paul           | K2PJC           |
| October      | Skip           | KD2BRV          |
| November     | Jim            | W2JC            |
| December     | Tom            | N2AAX           |

By the way, Randy (WU2S) has compiled a binder of all back issues of *The Resonator* and it's located in the club office.

Thanks Randy!!!

## 2019-20 Member Profiles

The year is now complete and here is a list of the 2019 monthly profiles. See past profiles elsewhere in *The Resonator* to check back in the archives to see each featured member's background.

| Month        | Name    | Call Sign |
|--------------|---------|-----------|
| January 2019 | Dave    | KD2JIP    |
| February     | Jim     | K2ZO      |
| March        | Zach    | KC2RSS    |
| April        | Bob     | N2SU      |
| May          | Stan    | KC2K      |
| June         | Steve   | WA2BYX    |
| July         | Roger   | K2RRB     |
| August       | Judith  | KC2LTM    |
| September    | Chris   | W2TU      |
| October      | Bob     | N2SU      |
| November     | Bob     | WA2ISE    |
| December     | Carol   | KD2NMV    |
| January 2020 | Gordon  | W2TTT     |
| February     | Chris   | KD2JQZ    |
| March        | Glenn   | KD2MDR    |
| April        | Steve   | K2SAB     |
| May          | Ahmed   | NJ8Y      |
| June         | Charlie | AC2ZU     |
| July         | Jim     | N2JLF     |
| August       | Walt    | K3DQB     |
| September    | Gregg   | N2ECH     |
| October      | Jim     | W2KNG     |
| November     | Dave    | KD2SGM    |
| December     | Bill    | NB1ILL    |

## 2021 Member Profiles

Here is a list of the 2021 monthly profiles.

| Month        | Name     | Call Sign |
|--------------|----------|-----------|
| January 2021 | Ed       | KD2TVT    |
| February     | John     | W2USN     |
| March        | Noel     | W2MSA     |
| April        | Gene     | KD2VNI    |
| May          | Berlotte | KD2MYF    |
| June         | Noel     | N2OEL     |
| July         | Roy      | KD2VMX    |
| August       |          |           |
| September    |          |           |
| October      |          |           |
| November     |          |           |
| December     |          |           |



## 2021 Dues Are Due

Dues for 2021 should have been paid by now. There are no changes to dues amounts for the upcoming year; they have stayed the same for many years.

Please make checks payable to "Fair Lawn Amateur Radio Club" and send them to

Bruce Kalogera NJ2BK  
163 Meadow Lane  
Secaucus, NJ 07094

Mail sent to the clubhouse will be delayed due to Covid. See website for other membership options:

<http://membership.FairLawnARC.org>

## Field Day 2021



Fair Lawn (NJ) Memorial Park  
June 26, 2021 at Noon



Join the FLARC PortableOps SIG !

## Blood Donors Needed In This Time Of Emergency

The Red Cross and related organizations are in great need for blood donations since most corporate blood drives have been cancelled. This has become acute recently.

[Communitybloodservices.com](https://www.communitybloodservices.com) has a network of offices open during the week and would really welcome folks making appointments to donate blood.

Thanks!



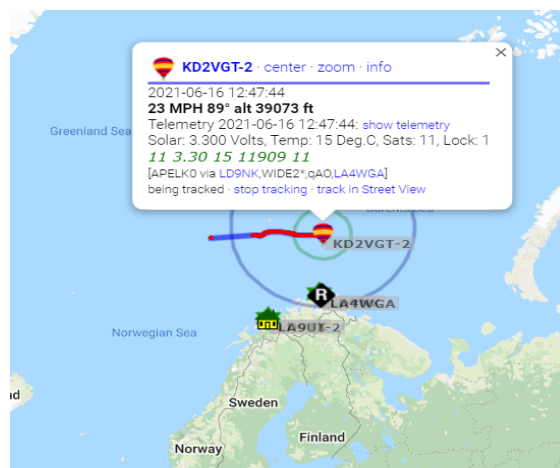
## American Red Cross

## Seton Hall High-Altitude Balloon

Remember the high altitude balloon released by the Seton Hall Prep STEM class, which was circling the earth many times?

A check of the status page at  
<https://aprs.fi/#!call=a%2FKD2VGT-2&timerange=86400&tail=86400>

shows that it was last spotted by the APRS network on June 16th just north of the most northern edge of Finland! Although that was a couple of weeks ago, it's normal to not hear from such balloons for long time periods when they are over the Arctic or other unpopulated areas.

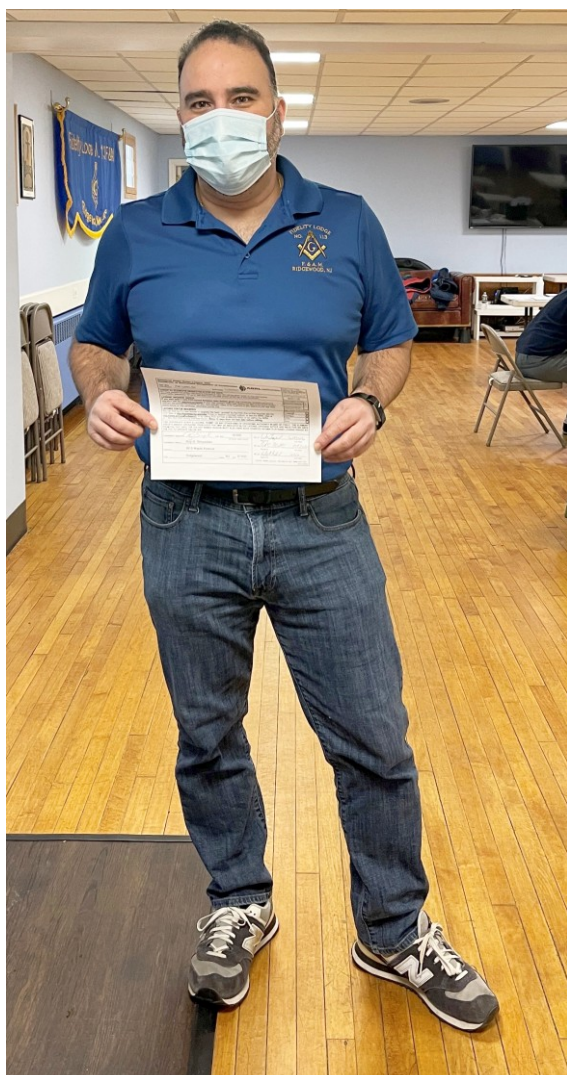


**New Member Profile, continued****How would you like to become more involved with FLARC?**

Even though some Friday nights I am committed to other organizations I belong to, I want to participate on other ham radio and community events the club is part of. It is a good way of joining in with the community.

**What else can you tell the club about yourself and/or ham radio?**

I am 40 years old, I graduated from the University of Vermont with a Business Degree and have been running my own IT consulting company for the past 15 years. And looking forward to learning and having fun with Amateur Radio.

**FLARC June 19, 2021  
VE Testing Results**

With VE testing back on a trial basis, Gene WO2W reports the following results:

| Name               | Call   | License Earned |
|--------------------|--------|----------------|
| Robert Colaizzo    | K2ZZO  | General        |
| Thiyagaraj Krishna | KD2WOK | Extra          |
| Theodore Birgler   | KD2WKG | General        |
|                    |        |                |
|                    |        |                |
|                    |        |                |

Testing for July will be indoors, at the Ridgewood Masonic Lodge - with "Covid Restrictions."

See page 3 of this Resonator copy, and also the FLARC website for the latest details.

Congratulations to Vlad KD2PJL for upgrading from Technician to Extra Class, with a callsign change to AD2BS.

**Five Special Interest Groups [SIGs]  
Already Formed: Any Others?**

We may be in lockdown but there is no lack of club interest. So far, the Radio Monitoring Group has 18 members and we've started a Digital Voice Modes group thanks to KD2DRS and NP4H. There is also an FT8 SIG and a POTA SIG headed up by Noel W2MSA. And a DX SIG managed by John W2JLH.

Other possible groups, from the member survey, include:

- *Radio Propagation*
- *Antennas and how they work*
- *Kit building*
- *Raspberry pi and Arduino and*
- *Ham radio software*

Anyone interested in leading any of these groups... ?  
Please contact Nomar NP4H.

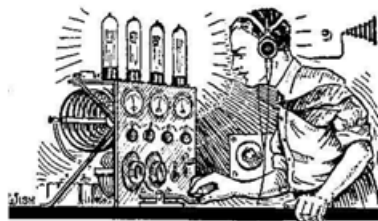


Image from May, 1926 QST, courtesy ARRL

## The Way We Were

By Fred Belghaus W2AAB

### North Jersey's "Radio Row"

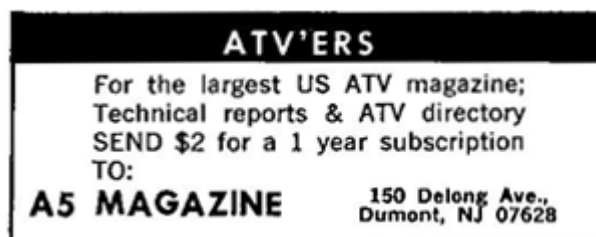
#### Part 3

In Part 1 of this series, we looked at North Jersey companies supplying radio-electronic products in the period from "spark" days to the 1950's, including dealers and distributors, as well as manufacturers. In Part 2, we continued with a look at only dealers and distributors active from the 1950's to the 1970's, including a few still in business today. This month, we will cover the "golden age" of the 1950's to the 1970's, focusing on manufacturers and other companies providing miscellaneous items to the amateur radio community. This month's list will also be alphabetical, with one exception, a list of companies once supplying QSL printing services. All but one of the companies in this month's column are no longer in business. Old timers, see how many you remember.

#### A5 MAGAZINE

150 Delong Ave., Dumont

This was a specialist amateur radio publication, whose concentration was on amateur television (ATV). They advertised on a limited basis in larger amateur radio publications. Here's an ad from 1968:



*Ham Radio Magazine, July, 1968*

Edited by Marty WB2SZW, *A5 Magazine* was a monthly publication that existed from the late 1960's to the 1970's. It featured technical articles, originally geared towards "fast-scan" ATV, as used in the 70 cm band. Later, articles also covered slow scan TV (SSTV), which is used on HF. It is no longer being published.



## The Way We Were, continued.

### CLEGG LABORATORIES (AKA: SQUIRES-SANDERS)

504 Route 53, Mt. Tabor; (Squires-Sanders: 475 Watchung Ave., Watchung)

Established in the late 1950's by Ed Clegg W2LOY, Clegg became one of the premier companies manufacturing high quality VHF transmitters, receivers, transceivers, and one VHF linear amplifier. Their first product, produced in 1957, was the model 62T10 "Climaster" transmitter. It covered 10, 11, 6, and 2 meters, and ran 150 Watts input on CW, and 100 Watts input on AM phone. [1] Only a handful of these were made before Clegg introduced a subsequent model 62T10 "Climaster Zeus," with minor changes in design. The "Climaster Zeus" would ultimately be replaced by a re-styled 6 and 2 meter transmitter called simply, the Clegg "Zeus."

*"Terrific!...Unbelievable...  
Best rig - ever"!*

Here are a few unsolicited comments from owners of Clegg VHF equipment

**From Ohio:**  
"... I am a quality control supervisor with a leading electrical manufacturer and this Zeus transmitter is to me the finest piece of workmanship that I have ever purchased or inspected..."  
**Richard E. Hayes, KBUX**

**From New Hampshire:**  
"... We feel that our new Zeus is the best thing that ever happened to us since we have been in ham radio (5 years)..."  
**Hazen & Beatrice Bean, K1JFQ**

**From Florida:**  
"... We are well satisfied with the results of this unit as we have worked forty DX contacts in little more than three hours on May 23, 1961, including six new states which we were unable to work in the past two years with a 120 watt, 6 & 2 transmitter of a different mfg..."  
**Jack Edlow, K4YIW**

**From California:**  
"... Never before have I been more pleased with a piece of gear than I am with my Zeus. In two days I have worked 24 states with several contacts in each, (phone) on six meters. And the signal reports—yow! For the most part unbelievable..."  
**Jeanne & John Walker, W4GEE**

**From Pennsylvania:**  
"Words cannot express the pleasure and performance of ZEUS. I have worked 5 states 5-9, plus I have given you \$1,000,000 advertisement..."  
**Dr. A. Schlechter, K3OEC**

**From Puerto Rico:**  
"... I want to inform you of the excellent results obtained with the Zeus Transmitter I bought one month ago. Taking advantage of the band opening, I have been able to work up to the present thirty-eight states, including California..."  
**Pedro Fullana, KP4AAN**

**From New Jersey:**  
"... I would like to tell you I am more than delighted with the operation of the Zeus. Have had nothing but good reports from other Ham's..."  
**Donald E. Gillmore, WA2QCQ**

**From Georgia:**  
"... This set is terrific. I've had terrific results with it. It's the best rig—ever..."  
**George E. Missback, K1QOE**

**KBCIE in Ohio tells about 99'er**  
"... with the 99'er haywired in from a four element beam, through 100 feet of coax, through a matching network, through a length of 72 ohm twinlead, and then through a length of 300 ohm twinlead to reach the 99'er, we could read the Michigan stations Q5! and back through the above haywire we were able to put 4.1 watts into the antenna as measured by a RF ammeter!..."  
**Ken Phillips, KBCIE**

**Clegg LABORATORIES**  
504 ROUTE 53, MT. TABOR, NEW JERSEY • OAKwood 7-6800



**Clegg Zeus VHF Transmitter FOR 6 AND 2 METERS**  
A highly efficient, 185 watt AM, high power VHF transmitter for full coverage of the amateur 6 and 2 meter bands and associated Mars frequencies. Automatic modulation control with up to 18 db of speech clipping provides magnificent audio with "talk power" greater than many kilowatt rigs. This beautiful unit with its ultra-stable VFO is the ultimate in VHF equipment for amateur and Mars operation.



**99'er Transceiver FOR 6 METERS**  
This completely new transmitter-receiver is ideal for both fixed station and mobile operation. Small in size, low in cost, and tops in performance, the 99'er offers operating features unequalled in far more costly equipments. The double conversion superhet receiver provides extreme selectivity, sensitivity and freedom from images and cross modulation. The transmitter section employs an ultra-stable crystal oscillator which may also be controlled by external VFO. An efficient, fully modulated 8 watt final works into a flexible Pi network tank circuit. A large 5 meter also serves for transmitter tune-up procedure.

Top, Clegg "Zeus" transmitter; Bottom, Clegg "99er" 6 meter transceiver

73 Magazine, September, 1961

## The Way We Were, continued.

In 1961, Clegg also introduced a basic 6 meter transceiver, the “99’er.” (See ad above, lower left). This little rig was a favorite of new Technician class hams. It ran 8 Watts input, and included a built-in low-pass filter to minimize TV interference to Channel 2. The “99er” required crystals for transmitting, but could also be operated with a number of commercially available 6 meter VFOs. The transmitter audio was more than adequate, and many excellent reports were received by users. Your columnist had one in 1970. It had a nuvistor front end, and was a very sensitive, though somewhat broad receiver. Nevertheless, more than 30 states were worked with this little gem, using a 3-element Cush-Craft yagi about 30 feet high, and about 4 or 5 Watts output.

Not long after introducing the “Zeus” transmitter, Clegg followed with a high performance 6 and 2 meter receiver called the “Interceptor.” After a couple of years, this model was further improved, and given the name “Interceptor B.”

BETTER THAN EVER FOR '64!

# Clegg's GREAT NEW

## INTERCEPTOR B



HERE'S THE ULTIMATE RECEIVER FOR THE SERIOUS VHF OPERATOR WHO WANTS TOP PERFORMANCE ON AM, CW, OR SSB

Now the top favorite of VHF Amateurs everywhere, Clegg's INTERCEPTOR receiver, in 1964 offers even more spectacular performance.

The new "INTERCEPTOR B", now available at your dealers, is a dual conversion 50-54 mc receiver with a self-contained crystal controlled converter for 144-148 mc reception. A switchable crystal lattice filter permits extremely sharp selectivity for SSB and CW as well as providing 8 KC of bandpass for strong local signals and net operation. Both diode and product detection are provided. Automatic and variable threshold noise limiters function respectively for AM and SSB/CW reception. A new electrical band spread control provides  $\pm 1$  KC to the receivers main tuning dial for ease in tuning SSB and CW signals.

Converter input provides for 220-432 mc and up, as well as for excellent general coverage of the lower frequency bands using Clegg's new ALLBANDER converter/speaker combination (described to the right).

Space will not permit a complete description of this fine new receiver, but we'd like to suggest that you see one at your dealers or write to the factory for complete data

Interested in HF? See the SS-1R at your nearest distributor.

Visit your distributor today and see the famous Clegg family that is making VHF history.



ZEUS 6 & 2 meter transmitter 185 watts AM & CW . . . \$695.00 amateur net.



THOR 6 meter transceiver . . . \$349.95 amateur net.



VENUS 6 SSB transceiver 85 watts PEP . . . \$475 amateur net.



99'er six meter 8 watt transceiver . . . \$159.95 amateur net.

See your Distributor or write for information.



**LABORATORIES**  
Division of Squires-Sanders, Inc.

RT. 53, MT. TABOR, N. J.  
TELEPHONE 627-6800

ADD SUPERB GENERAL COVERAGE 3 THROUGH 30 MC TO YOUR INTERCEPTOR RECEIVER (Either B or Earlier Model)

The new Clegg ALLBANDER converter/speaker combination, attractively packaged in a matching cabinet, now extends the tuning range of any INTERCEPTOR receiver to completely cover all frequencies (with the exception 22-27 MC) between 3 and 31 megacycles.

Frequency range and preselector controls provide easy selection and matching of the desired tuning range while the INTERCEPTOR contributes superb selectivity, sensitivity and stability. After adjustment to the desired frequency segment all tuning is accomplished with the INTERCEPTOR'S main tuning dial.

With the ALLBANDER your INTERCEPTOR will not only receive all ham bands between 3-30 MC but also intermediate frequencies where many desirable signals (WWV, Citizens Band, foreign broadcast, etc.) are found.

Operating power is supplied by the INTERCEPTOR.

**Clegg ALLBANDER/Speaker—Amateur Net . . . \$129.95**

73 Magazine, February, 1964

In the mid 1960's and beyond, the Clegg “Zeus” and “Interceptor B” receiver combo



## The Way We Were, continued.

was considered the ultimate in VHF equipment — roughly equivalent to the Collins S-Line for HF. Clegg also made available an “All Bander” converter that allowed reception of all HF bands from 80 through 10 meters with the exception of 22 to 27 MHz, when paired with the “Interceptor B” receiver.

About the same time, Clegg developed a higher power 6 meter AM transceiver to be the “big brother” of the “99’er.” It was called the “Thor 6.”



73 Magazine, June, 1963

It ran 40 to 50 Watts output, and included a built-in VFO. I once found one at a hamfest, but never tried it out on the air. Another collector begged me to sell it to him, even untested, so I did.

Another Clegg model was quite innovative. It was a 6 meter SSB transceiver—one of the very first for any VHF band. It was their model “Venus 6,” manufactured by Squires-Sanders under the Clegg name.

## The Way We Were, continued.

The “Venus 6” was designed chiefly for weak-signal work on 6 meters, so its frequency coverage was 50.0 to 50.4 MHz. It ran 85 Watts P.E.P. input, but was also capable of CW and AM operation.



Clegg “Venus 6” – Image: <http://www.radioreprints.com/descriptions/cleggvenus.php>

A matching linear amplifier was also available, the “Apollo 6,” which was capable of up to 675 Watts P.E.P. input with 10 Watts of drive. [2] The “Apollo 6” final tubes were a pair of 8236 Beam Power Pentodes. [3]



Clegg “Apollo 6” Linear Amplifier

Image: [http://www.radioreprints.com/descriptions/apollo\\_six.php](http://www.radioreprints.com/descriptions/apollo_six.php)

## The Way We Were, continued.

There were also two new “basic” transceivers for 6 and 2 meters introduced in the late 1960’s. These were the Clegg “22’er,” and “66’er.” Like their other AM transceivers, these employed nuvistor front-ends in the receiver, and they were quite sensitive. The transmitters ran about 15 Watts output.



Clegg “22’er” 2 meter transceiver

Image: <https://picclick.com/Vtg-Clegg-22er-Transceiver-Radio-Ham-Amateur-263531228241.html>

The “66’er” looked exactly like the “22’er,” and had similar specifications, but it covered the 6 meter band. Both of these were enormously popular, especially the “22’er.” Compared with the Gonset “Communicator” transceivers for 6 and 2 meters made during the 1950’s, these Clegg rigs were in an altogether different class. They were smaller, lighter, attractively styled, and superior in performance. Both of these were also manufactured by Squires Sanders at their facility in Watchung, but sold under the Clegg name. There will be a separate listing for products unique to Squires-Sanders, later in this column.

There was one last AM version of the “22’er,” called the “22’er Mark II.” These ran 40 Watts and were made in the early 1970’s. They were reported to be even better than their previous model. [4]



Clegg “22’er Mark II” - Image: See Note [5]

## The Way We Were, continued.

But shortly afterwards, Clegg/Squires-Sanders shifted their manufacturing efforts to serve the growing VHF-FM market. Their first effort was a new type of “22’er,” redesigned for FM mode. It was the Clegg “22’er FM.”



Clegg 22'er FM – Image: See Note [6]

The “22’er FM” was crystal controlled and only operated the 146 to 147 MHz sub-band, [6] because there was no FM activity below 146 in those days. Subsequent 2 meter FM rigs included the FM-21, FM-27/B, FM-28, FM-88, FM-DX, and the “Mark 3.” The FM-27B used a hybrid crystal-mixing scheme to enable a kind of “pseudo-synthesized” frequency control, in addition to discrete crystal operation, but the scheme was only partially successful. [7]

I once owned an FM-88, purchased about 1975. But I grew tired of 2 meters, and stored mine under the bed for some 30 years. After cleaning off the dust, I tried it again. It worked perfectly—but it didn’t have PL, needed for the FM repeaters.



Clegg FM-88

Image: <https://picclick.com/Vintage-Clegg-FM-88-2-meter-FM-Transceiver-232561411153.html>

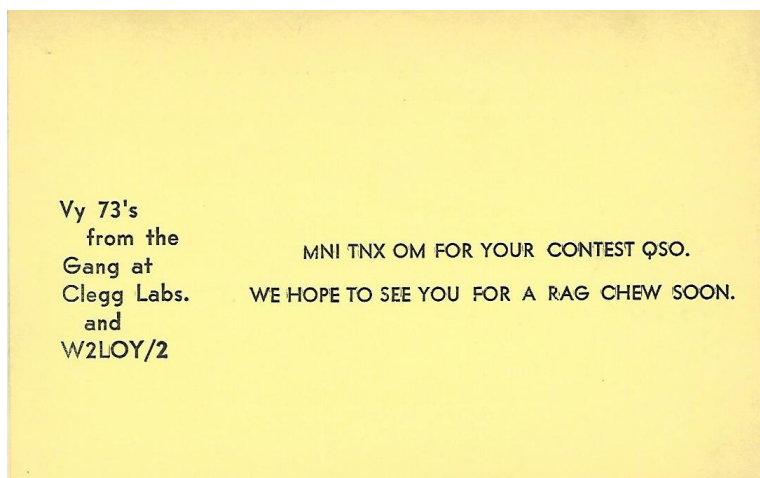
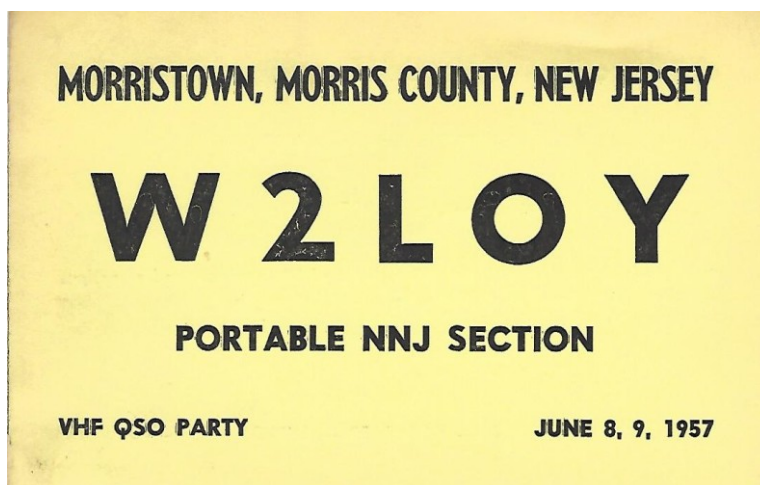
By now, these Clegg FM rigs covered the entire 2 meter band from 144 to 148 MHz, and I even used my FM-88 on a MARS frequency just below 2 meters. A couple of years ago, I sold it to a FLARC member, who immediately installed a PL deck, and reported that it was still working fine.



## **The Way We Were, continued.**

Clegg was a great company with great products. But like all good things, it finally came to its end. Ed Clegg moved to Pennsylvania and changed his call to W3LOY, where he was often heard operating on an informal group of hams active in the electronics industry, who gathered during the day on 3999 kHz LSB. His final years as a public figure in amateur radio were occupied with writing new equipment reviews for *73 Magazine*.

Here's a QSL from Ed back in his New Jersey days:



Images: Author's collection

The card dates from 1957, at the same time that Clegg's first product, the 62T10 Climaster transmitter was introduced. Only a few were made, so if you can even find one today, prepare to spend your entire paycheck before you can take it home. Those of us who were devoted VHFers certainly miss Clegg Labs and their fine products. There is no other company like them today.



## The Way We Were, continued.

### DATAK

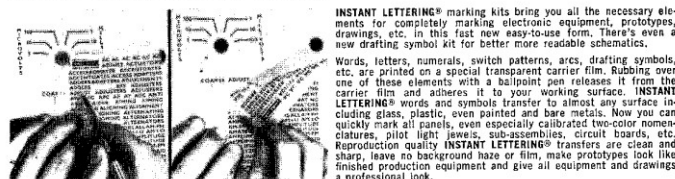
Guttenberg, NJ (Also: 85 Highland Ave., Passaic)

They didn't make transmitters, receivers, transceivers, or antennas, but something every homebrewer would appreciate: dry transfer marking kits, to identify controls, switches, and various other things on panels and chasses built by amateurs not afraid of the smell of solder.

# TRY IT . . . you'll be amazed!

## instant lettering® dry transfer MARKING KITS

Ask your local parts distributor for your free sample . . . then try it. All you do is rub over a word or symbol and it's transferred. What could be easier?



INSTANT LETTERING® marking kits bring you all the necessary elements for completely marking electronic equipment, prototypes, drawings, etc. in this fast new easy-to-use form. There's even a new drafting symbol kit for better more readable schematics.

Words, letters, numerals, switch patterns, arcs, drafting symbols, etc. are printed on a special transparent carrier film. Rubbing over one of these elements with a ballpoint pen releases it from the carrier film and adheres it to your working surface. INSTANT LETTERING® words and symbols transfer to almost any surface including glass, plastic, even painted and bare metals. Now you can quickly mark all panels, even especially calibrated two-color nomenclatures, pilot light jewels, sub-assemblies, circuit boards, etc. Reproduction quality INSTANT LETTERING® transfers are clean and sharp, leave no background haze or film, make prototypes look like finished production equipment and give all equipment and drawings a professional look.

**NEW!** dry transfer ELECTRONIC SYMBOL DRAFTING SET

The quicker way to more readable schematics. Contains 40 sheets of electronic symbols including letters and numerals. These sheets are made with a new diazo-proof adhesive that adheres perfectly to all vellum, paper and polyester tracing films. Also included is a complete guide to drawing with dry transfer symbols. Designed to conform with MIL-STD-15-1.

No. 979—Electronic Symbol Drafting Set ..... \$15.95

**DATAK® PROTECTIVE COATING**  
Specially designed for all INSTANT LETTERING dry transfer products. Water-clear, dries quickly and protects against abrasion and weathering. Particularly effective on metal and other non-porous surfaces. Protective Coating Kit contains 1 oz. bottle of DATAK® with applicator brush cup and 1 oz. bottle of thinner. No. 04176.....\$1.00 • Quick drying Spray Coating in handy 16 oz aerosol can. No. 04177.....\$2.95

**TITLES FOR ELECTRONIC EQUIPMENT**  
Hundreds of preprinted titles researched to give up to 99% of all electronic marking. For labeling, marking, titling all electronic control panels, drawings, prototypes, etc.

No. 958—Black ..... \$4.95  
No. 959—White ..... \$4.95

**TERMINAL & CHASSIS MARKING KIT**  
All the necessary letters, letter combinations and numerals for marking chassis, printed circuit and terminal boards, rotating components, etc.

No. 966—Black ..... \$4.95  
No. 967—White ..... \$4.95

**METER & DIAL MARKING KIT**  
Arcs, dial patterns, lines, wedges, graduation lines, switch symbols, alphabets and numerals in black, white and red for marking standard and special rotary tap switches, potentiometers and prototype and especially calibrated meter dials. Colors provide contrast on scales and switches simplifying usage of complex instruments.

No. 968—Meter & Dial Marking Kit ..... \$4.95

Ask your local parts distributor for your free sample or write direct.  
**THE DATAK CORPORATION • GUTTENBERG, NEW JERSEY**

73 Magazine, May, 1965

Unfortunately, by the time this ad was run, too many amateurs were already beginning to lose interest in building their own equipment, preferring to buy their equipment ready-made. Soon, Datak's customers would become manufacturers instead of amateurs, especially those making printed circuit boards and panels. [8] Datak, along with the old time radio company Philmore, have become part of LKG Industries, chiefly supplying marking products for circuit boards. [9]

## The Way We Were, continued.

EAC INDUSTRIES, INC.

20 Bridge Ave., Red Bank

The advertisement below is interesting. EAC was selling “brand new... original manufacture... 1968 production” R-390A/URR receivers.

**Unique opportunity to own  
one of the world's finest  
all-band receivers.  
500 kc to 32 mc!**



R-390A/URR  
Radio Receiver

Limited quantity of famous  
R-390A/URR radio receivers . . .  
brand new. Original manufacture,  
1968 production . . . fully tested  
to meet U.S. Government  
specifications. Range 500 kc to  
32 mc, 30 1-mc bands, digital  
readouts. Original pack, includes  
two instruction books, complete  
set running spares. New low  
price \$1,700\* . . . fully  
guaranteed.

\*A few new, but shelf-worn, units  
available at lower prices.

WRITE OR CALL FOR DETAILS

**EAC Industries, Inc., 20 Bridge Avenue, Red Bank, N.J. / 201/747-5100, Ext. 51.**

*73 Magazine, October, 1968*

What's peculiar about this ad? A company called EAC (Electronic Assistance Corp.), also in Red Bank, was one of the original contractors manufacturing the R-390A/URR receivers. EAC Industries was almost certainly the same company, so why didn't they state that these receivers were made by them under their Electronic Assistance Corp. name? Was there some legal reason for that? If anyone reading this knows the answer, I'd like to hear from you.

Incidentally, note this in the ad: “New low price \$1,700....” *LOW* price? Hams were buying these for \$300 to \$400 on the used market, and knowing how cheap most of us are, I wonder how many hams reading their ad in *73 Magazine* bought any at their “new low price?”

## The Way We Were, continued.

### ELECTRONIC APPLICATIONS CO.

Route 46, Pine Brook

The products made by this company were designed by John "Hammie" Richardt, W2WIY. They may also have been manufactured by him, because if you recall in last month's column, "Hammie" operated a business nearby from which he acted as a dealer for Kenwood.

**LOW PRICE,  
QUALITY,  
COAXIAL  
SWITCHES...**



Don't pay for the 5th and 6th position. The average HAM rarely uses more than 4!

SPECIFICATIONS: Silvered Contacts. Write-on ERASABLE escutcheon plate. AVAILABLE EITHER 4 PST (COAX-4) OR LINEAR (COAX-LINEAR) IN-OUT VERSION. Handles 1000 W AM or 2000 W SSB. Insertion loss negligible to 160 Mc. VSWR: Less than 1.2 at 160 Mc. Size: 3 1/8" dia. x 1 1/8" overall. Single hole mount. SPECIFY MODEL. \$7.65 ea.

**COAXIAL LIGHTNING  
ARRESTORS**



Zero power loss. No increase in SWR at 150 Mc. Does not attenuate signals. Model 210 for 1000 W (AM) or 2000 W (SSB). Model 211 Electronic static arrester for 50 W (AM) or 100 W (SSB). SO-239 UHF type fittings. Other fittings available. Size approx. 3 1/8" x 1/2" dia. #210 \$3.15 ea. #211 \$4.65 ea. SPECIFY model #.

PRICES above are amateur net. Shipped ppd. in U.S.A. Send Check or M.O. (N.J. ADD 3% Sales Tax)

OTHER PRODUCTS: Feed thru capacitors. Tuned noise filters. Alternator, generator, low-pass and field filters. SEND FOR CATALOG.

**"COMMUNICATION ENGINEERED"**  
By "HAMMIE" RICHARDT—W2WIY

**ELECTRONIC APPLICATIONS CO.**  
ROUTE 46, Pine Brook, N. J. 07058

*Ham Radio magazine, July, 1968*

I cannot supply any further information about this company, and would welcome any additional details from readers. It no longer exists, and "Hammie" is now a Silent Key.



## The Way We Were, continued.

### FICHTER ELECTRONICS

33 Myrtle Ave., Cedar Grove

The only product advertised by this company was the Transtenna 102A, a combination T-R switch and pre-selector which included a nuvistor RF amplifier. Below are two ads from the early 1960's.

**COMING SOON—ANOTHER FIRST!**  
**TRANSTENNA 102A**  
 COUPLES TO FEED LINE  
 PAT. PNDG.  
 U.S.A. & CANADA

A preselector second to none and a T-R switch beyond comparison. Band width 6 to 80 mtrs. Through pos for unity gain on all freq.

FULL LEGAL INPUT ★ 20 to 30 db GAIN

HOW IT WORKS  
 (see ad in Oct. issue)

NO TVI • NO SUCK OUT • OUTPERFORMS  
 REQUEST LITERATURE POPULAR 101  
 DEALERS INQUIRIES INVITED (See QST Jan. 1963)

**FICHTER ELECTRONICS** 33 Myrtle Ave.  
 Cedar Grove, N.J.

**TRANSTENNA 102A**  
 A PRESELECTION SECOND TO NONE AND A T-R SWITCH BEYOND COMPARISON

Pat. Pndg. U.S.A. & Canada

**MODEL 102A**  
**\$69.45** (Add \$7 for Sidetone  
 —either model)  
 15 DAY TRIAL

Return For Full Refund If  
 You Burn It Out Or Are  
 Not **FULLY PLEASED**

- Std. coax coupler (xmt to feedline)
- No TVI or Suck out
- 30 DB Min. Gain (10-80 mtrs)
- No Effect on Transmission
- Improved 102A Adjustable Mute Circuit Breaks Any Xmt-Rcvr Between Dots & Dashes Without Clicks. Improved Semi-conductor Through-Position Switch Switches Rcvr Directly to Antenna for Unity Gain 6-80 Mtrs.
- 102B, \$59.00 like 102A exc. r.cvr. muting
- Monitored switching
- Full Legal Input
- Burnout Proof
- CW Sidetone (optional)

Write for Free Literature

**FICHTER ELECTRONICS** 33 Myrtle Avenue  
 Cedar Grove, N. J.  
 Tel: CEter 9-6412

Left: Initial product announcement, *73 Magazine*, December, 1963;

Right: First advertisement, *73 Magazine*, March, 1964

Before the days of all-band HF transceivers, we hams used separate transmitters and receivers, with an antenna changeover relay powered usually by 120 VAC to switch from receive to transmit—unless we used a separate antenna for receiving, or unless we were blessed enough to have a T-R switch (transmit-receive switch), that required only the RF from our transmitters to switch our single antenna from receive mode to transmit.

The Transtenna added one further refinement, a nuvistor (miniature metal tube) RF amplifier to “soup up” our inexpensive receivers with up to 30 dB of additional gain. I believe this company was operated by Emil W2ABI, but I would appreciate any correction on that from readers.

The company continued to advertise until the early 1970's, by which time, the need for a separate antenna changeover device became pretty much moot.

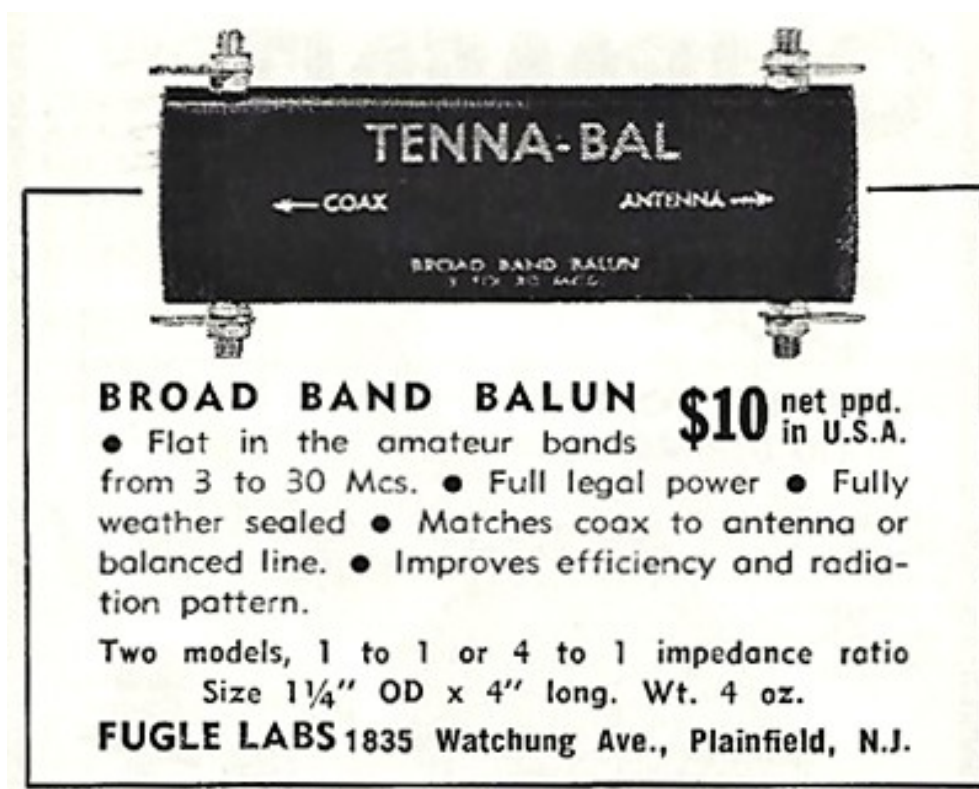


## The Way We Were, continued.

### FUGLE LABS

1835 Watchung Ave., Plainfield

Not that close to us, but still in North Jersey, there was Fugle Labs, whose only known product, at least the only one advertised was the “Tenna-Bal” balun. It came in two versions.



*73 Magazine, July, 1965*

Their models were 1:1 or 4:1 ratio, and they were rated at 1 kilowatt (input) from 80 to 10 meters. At only \$10.00, I wonder how many were sold?

There is a company called Fugle-Miller Laboratories, Inc. in Rahway, established in 1963, which is listed as a manufacturer of electronic equipment and supplies. [10] They may be the current successor to Fugle Labs. Can anyone verify this? Other records show that Fugle-Miller has also been a U.S. Government contractor. [11], [12]

## The Way We Were, continued.

### GAVIN INSTRUMENTS

Depot Square & Division St., Somerville

Not far away from Fugle Labs was Gavin Instruments, in Somerville. They advertised two products in ham magazines, shown on the next page.



**HARMONIC/TVI PROBLEMS???**

**6 METERS**  
**TUNABLE LOW-PASS MAVERICK**  
 The only low-pass filter designed expressly for 6 meters. With 9 individually shielded sections and 5 stages tunable forming a composit filter of unequalled performance. 1 DB loss. Handles 400 watts PL. 35 DB rejection. Size 5" by 2" by 3". **AMATEUR NET \$16.95**

**MAVERICK II WITH POWER MONITOR**  
 Same as above but with 6 meter power indicator calibrated in watts output. Indicator Size 4" by 4" by 4 1/2". Slant Face. Reads 0-50. 0-400 watts. **AMATEUR NET \$34.95**

**2 METERS**  
**BAND-PASS MODEL RP-144**  
 A narrow band-pass filter with 6 mc pass band and 146 mc center frequency. 1 DB insertion loss. 35 DB attenuation of harmonics. Handles up to 185 watts PL. Size 4" by 2 1/4" by 2 1/4". **AMATEUR NET \$11.85**

Write for complete brochures. See your local dealer.  
 Manufacturers of the finest UHF TV Converter

**GAVIN INSTRUMENTS, INC.**  
 DEPOT SQUARE & DIVISION STREET  
 SOMERVILLE, N.J.  
 TEL: 722-6311  
 AREA CODE 201



**TWIN-TRANSISTOR AUTO IGNITION**

**RELIABILITY AND PERFORMANCE AT A REALISTIC COST**  
 Extends the life of your points indefinitely.  
 Triples the life of your plugs.  
 Increases gas mileage as much as 10%.  
 Improves performance.  
 Installs in minutes — uses existing coil.  
 Fits all 6-12 volt negative ground autos.  
 Fully guaranteed for 2 years.  
 Reduces ignition interference caused by arcing points.

See Your Local Distributor or Order Direct from Factory **MODEL A-4 19.95 NET**

Write for Complete Catalogs on  
 Filters—Converters—Booster

**GAVIN INSTRUMENTS, INC.**  
 DEPOT SQUARE & DIVISION STREET  
 SOMERVILLE, N.J.  
 TEL: 722-6311  
 AREA CODE 201

Left: 73 Magazine, August, 1963;

Right: 73 Magazine, January, 1964

The first of these, and probably the most popular, were their line of low pass RF filters for 6 and 2 meters. This was when TVI was an issue, especially for VHF operators.

The 6 meter model was designed for a sharp cutoff at 54 MHz to greatly attenuate signals of TV Channel 2 video at 55 MHz.

The 2 meter model would, of course, be designed similarly to just pass the 2 meter transmitted signals, and cutoff just above 148 MHz – well before the TV Channel 7 video carrier, at 175 MHz. [13]

One nice feature of these filters was that each filter section was individually tunable for best performance. Very few low pass filters of that era were tunable unless they were homebrew.

## **The Way We Were, continued.**

Their second product was a bit innovative, but nothing more is known about whether it was successful. It was a transistorized automobile ignition system. Although the first electronic ignition system was introduced by Delco in 1948, the first transistorized units came in the early 1960's, [14] making Gavin's one of the very first.

### **INVERTRONICS**

**P.O. Box 342, Pine Brook**

Not much is known about this company, but their advertised products were inverter-battery chargers.

**INVERTERS**  
DESIGNED TO YOUR REQUIREMENTS  
Send us your specifications  
**FREE** Your call letters on units  
with prepaid orders

|                                 |                |
|---------------------------------|----------------|
| Standard models                 |                |
| <b>INVERTER BATTERY CHARGER</b> | <b>\$36.50</b> |
| 12 v dc to 120 v 60 cps 150 w & |                |
| 120 v ac to 12 v dc 15 amp      | <b>\$69.50</b> |
| 300 Watt model                  |                |
| Transformer Kits Available      |                |
| <b>INVERTRONICS</b>             |                |
| P.O. BOX 342                    |                |
| PINE BROOK, N. J.               |                |

*73 Magazine, June, 1965*

The models advertised converted 12 Volts DC to 120 Volts AC, presumably to operate amateur transceivers operating on standard house current while mobile. Their high power unit was capable of 300 Watts. There is an Invertronics listed online in Lake Hiawatha, [15] but it is not known whether this is the same, or another company.

### **J&D LABS**

**P.O. Box 266, Eatontown**

Another of the small companies specializing in amateur radio equipment was J&D Labs of Eatontown. They advertised mainly in magazines concentrating on VHF, but also in *73 Magazine*. Their best known products were single band linear amplifiers that covered any band from 80 through 2 meters.

## The Way We Were, continued.



73 Magazine, July, 1963

There were two basic versions, 1 kilowatt input and 500 Watts input. They were most popular with 6 and 2 meter operators seeking bigger signals for weak-signal work.

J&D also made another series of amplifiers, their "Musketeer" line. These were grounded grid, using an Eimac 3-400Z to deliver 1 kilowatt DC input on SSB or CW, and 600 Watts on AM.



Musketeer Quad grounded grid four band (80-15 meters) amplifier. Power supply built in. Runs Eimac 3-400Z for full KW on SSB or CW and 600 watts on AM. Drives with any 70-250 watt exciter. 8"H, 12"W, 7"D. \$329.90.  
Musketeer Six, same as above but for six meters: \$39.90.  
Musketeer Two, same as Quad except for two meters: \$319.90.

73 Magazine, October, 1963

The "Musketeer Quad" was a four band amplifier covering 80, 40, 20, and 15 meters. The "Musketeer Two" and "Musketeer Six" covered 2 and 6 meters, respectively. J&D is no longer in business. Doesn't the enclosure on those "Musketeer" amplifiers look like the enclosures used by Clegg for their "22'er" and "66'er" models? Hmm....



## The Way We Were, continued.

### JANEL LABORATORIES

#### Box 112, Succasunna

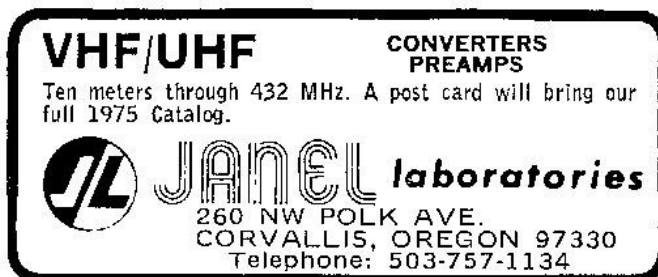
This was a one-man company owned and operated by Bob Larkin W2CLL, which operated out of his home in Flanders (Morris County). Bob was originally W7PUA from Oregon, but he moved to New Jersey in the 1960's.



*Ham Radio Magazine, July, 1975*

Bob designed and manufactured what were once the top of the line receiving converters and preamplifiers for 10 meters through 70 centimeters, using the latest low noise solid state devices available at moderate cost. Around 1970, I drove to his home and purchased one of his 70 cm converters for my first 432 MHz station. It was a marvel in terms of performance at a time when many UHFers were still using relatively noisy vacuum tube converters. Bob had another hobby besides amateur radio. He grew a variety of rare cacti in his basement, and was proud to show off his collection to any visitors.

Later in 1975, Bob picked up stakes, and moved back to his home state of Oregon. He continued to advertise from his new QTH for several years.



*Ham Radio Magazine, October, 1975*

Serious VHF-UHF operators during the late 1960's to mid-1970's will certainly remember Janel's excellent products.

## The Way We Were, continued.

### POLYTRONICS LABS ("POLYCOMM")

388 Getty Ave., Clifton

(Later: 88 Clinton Rd., West Caldwell; 900 Burlington Ave., Silver Spring, MD) [16]

"Polycomm" was another of the most popular local companies making quality VHF transceivers for amateurs during the 1960's. They also made a series of CB transceivers ranging from several channels to "all 23" and were equally popular among CBers.

**From Polytronics:**  
**THE POWERFUL POLY-COMM "62" B, VHF TRANSCEIVER**  
**For Novice, Technician and General**  
**COVERS BOTH THE**  
**6 AND 2 METER**  
**BANDS**



*Rugged...dependable...  
 feature by feature the  
 Poly-Comm "62" B outclasses them all!  
 O.C.D.M. Approved.*

**The unbeatable Poly-Comm "62" B** covers 250 kc either side of both bands for C.A.P. use . . . it has 18 watt power input . . . S meter doubles as tune-up meter, actually samples R.F. for maximum output . . . 100% plate modulation . . . V.F.O. or crystal control for transmit . . . built-in 115 VAC/12 VDC power supply . . . triple conversion on two, dual on six . . . (crystal controlled) . . . delayed AGC . . . all oscillators voltage regulated . . . squelch and automatic noise limiter . . . sensitivity: better than .8 microvolts on two, better than .2 on six for 10 db S/N/N ratio . . . selectivity: (6 kc @ 6 db pt.) and stability assured by all temperature compensated circuits and Hi-Q IF stages utilizing 12 tuned circuits . . . single knob bandswitching . . . sparkling modulation for solid contacts . . . complete with under-the-dash bracket and ceramic microphone.

**\$349.50 amateur net COMPLETE**  
**O.C.D.M. Model "62" CD...\$349.50 COMPLETE**

**Antennas: PCA-251:** (illustrated) Whip only. 2 & 6 meter dual band antenna. Standing wave ratio 1.1 to 1 at resonance and no greater than 1.5 to 1 at any point in the band. **\$13.95**  
**PCA-249:** Same as above with cowl mounting. Complete with 15 ft. RG-58/u cable and PL/259 connectors at both ends. **\$21.95**  
**PCA-250:** Same as above with standard stud, ball mount, cable and connectors. **\$23.95**

**At your electronics parts distributor or write for complete specifications to:**

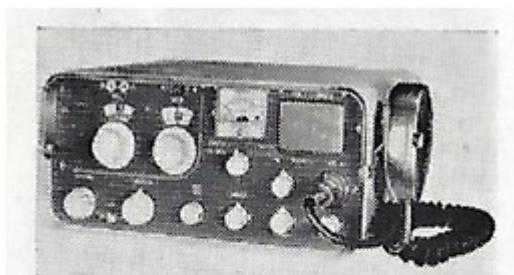
Clifton, N. J. • Phone: 772-1334

**POLYTRONICS**  
**LAB inc.**

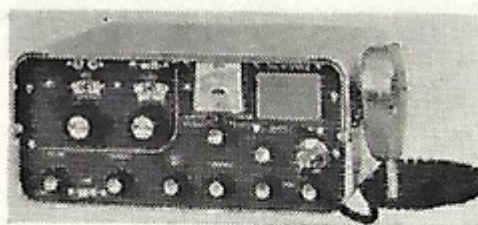
73 Magazine, November, 1961

## The Way We Were, continued.

Their Model “62” (pictured above) was the only dual band 6 and 2 meter rig of its kind in those days. Shortly thereafter, they also made separate 6 and 2 meter transceivers, all models but one with distinctive red front panels and white enclosures.



The Poly-Comm 6 transceiver covers 50-54 mc with 10 watts output. Nuvistor front end, squelch, noise limiter, S-meter. Weight: 23 lbs. Price: ac only \$309.50, ac/12vdc \$329.50.



The Poly-Comm 2 transceiver covers 144-148 mc with over 7 watts output. Nuvistor front end, squelch, noise limiter, S-meter, triple conversion, 10 diodes, 19 tubes. Weight: 23 lbs. Price: ac only \$329.50, ac/12vdc \$349.50.

Images: 73 Magazine, October, 1963

Left: PolyComm 6

Right: PolyComm 2

The one exception to their styling was that their 6 meter transceiver had a blue front panel, while the 2 meter version was red. All enclosures were white.

Polycomm’s transceivers all used nuvistor RF amplifiers in their receiver sections for high performance. They were also very popular among VHFers, eventually losing popularity, in your columnist’s opinion, to Clegg/Squires-Sanders because the Clegg units were smaller, lighter, and sold for considerably less. I once borrowed a PC-2 (2 meter version) and was impressed with its very “hot” receiver. Unfortunately, I also found its built-in VFO to take too long to stabilize.

Surprisingly, Polycomm also made 2 CB transceivers sold under the Lafayette Radio label. They were the initial and “A” versions of their model HB-333. [17]



Lafayette model HB-333, made by Polytronics

Image: [http://www.radiopics.com/CB%20Radio/USA%20CB/3-Base/Lafayette/Lafayette\\_HB-333.htm](http://www.radiopics.com/CB%20Radio/USA%20CB/3-Base/Lafayette/Lafayette_HB-333.htm)



## The Way We Were, continued.

Many years ago, a neighbor 3 houses down from me was a CBer. I was offered an “old Polycomm CB radio” for free if I wanted it. I didn’t. I wish I’d taken it, if nothing else, for its historical value. It might have been this one, or one similar:

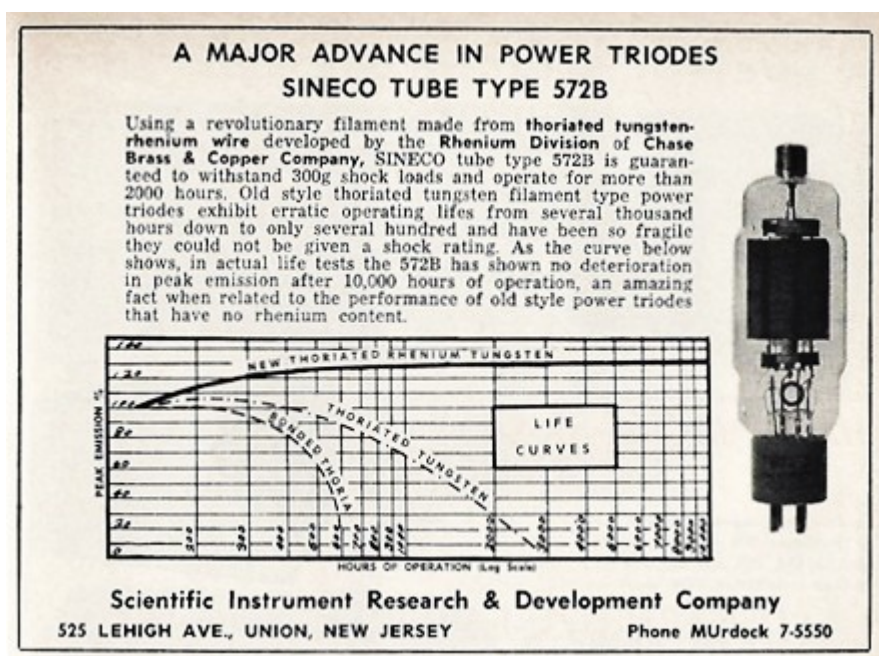


Image: eBay

## SCIENTIFIC INSTRUMENT RESEARCH & DEVELOPMENT CO.

525 Lehigh Ave., Union

There were still some tube manufacturers in North Jersey in the 1960's. One of them, selling to amateurs, was Scientific Instrument R & D.



73 Magazine, October, 1965



## The Way We Were, continued.

Their only product advertised to amateurs was the once very popular type 572B Power Triode, commonly used in several kilowatt linear amplifiers. Nothing further is known about this company, and there is no listing for them online.

## SIGNAL / ONE

### P.O. Box 127, Franklin Lakes

There are a number of “legends” in amateur radio equipment: The Collins “Gold Dust Twins,” the Collins “S” Line, the Clegg “Zeus” and “Interceptor B,” the R.L. Drake 2B, and a few others. The Signal One series of transceivers was another. First manufactured in the late 1960’s, these rigs were made in several states over the years, including right here in New Jersey — Franklin Lakes, to be exact.

**COMPARE IT?**

**...WITH WHAT?**

The CX7 practically demands comparison. Question is . . . what to use for a standard? A transceiver? Or transmitter-receiver separates?

You'll really need one of each. Don't forget power supplies, speech processor, keyer, directional wattmeter. Pick the best. In fact, set up your "dream station" . . . at least on paper. NOW . . .

**WHATEVER YOUR CHOICE IN THE PAST . . .**

**COMPARE IT POINT-BY-POINT** with the NO-COMPROMISE CX7 . . .

**COMPARE** the CX7 with any receiver for sensitivity, selectivity options, dynamic range, AGC merit, VFO smoothness, interference rejection . . .

**COMPARE** the CX7 with any transmitter for continuous power output in all modes, P.A. ruggedness, crisp audio punch, low distortion, instant CW break-in and spotting, quick band-change . . .

**COMPARE** the CX7 with any transceiver for total size and weight . . . the extreme flexibility of its dual-channel system . . . the convenience of its completely self-contained design . . .

**CONSIDER** the CX7's incomparable frequency coverage and readout precision . . . aerospace-bred excellence in engineering and craftsmanship . . . built-in "extras" . . . overall versatility . . .

**SEE WHAT YOU'VE BEEN MISSING?**

**signal/one**  
A Division of ECI (An NCR Subsidiary)

Write for detailed technical information. 2200 Anvil Street N. • St. Petersburg, Florida 33710

*QST Magazine, October, 1969*

Their first model, CX7, was designed by Dick Ehrhorn W4ETO and Dr. Eugene Chenette N5YJ in 1969 and was manufactured in St. Petersburg, Florida. [18]

## **The Way We Were, continued.**

Band coverage was 160 to 10 meters in 1 MHz ranges. The specifications were: dual VFOs; digital readout with accuracy of 100 Hz; nominal 150 Watts PEP output on all bands below 10 meters, 130 Watts above 28 MHz, SSB, CW, FSK, and “compatible” AM. The receiver included 16 integrated circuits, with filters for 2 kHz on SSB, 400 Hz on CW (with option for 300 Hz), and 1200 Hz for FSK. Sensitivity was claimed to be 0.3 microvolts (signal + noise to noise ratio) at 10 meters with 2 kHz bandwidth, and with image rejection greater than 60 dB. The transmitter included a built-in electronic keyer, and used a broad band solid state driver with a ceramic-metal 8072 tetrode final amplifier. [19]

All of this sounds almost too good to be true for a rig made some fifty years ago... and it *was*. There is no secret that although some rigs shipped performed well, others developed technical problems that were not always solved, even after returns to the factory. The CX7 was followed by two “improved” versions, the CX7A and CX7B, but results were about the same.

When the company was acquired as a subsidiary by NCR (the cash register company), it was actually a Division of Electronic Communication, Inc., and manufacturing was moved to California. [\*] But by then, the company is reported to have had serious problems internally, including a large number of returns, rumors that the company was failing to pay its suppliers and employees, and a careless attitude by management. [20] In 1974, a short notice appeared in 73 Magazine, announcing that the assets of Signal/One in California had been purchased by Don Roehrs, WA2SAB, who would serve as the new President and General Manager, and that he was moving manufacturing to Franklin Lakes. Don Payne, K4ID of Payne Radio was named as exclusive distributor. [21] By late 1971 or early 1972, the company became Signal/One Corp., Subsidiary of Computer Measurements, Inc., and relocated to Gardenia, California. [\*\*]

Don’s family owned the Roehrs Garden Mart on the corner of Ewing and Franklin Lake Road. Don had worked for his dad, Don Senior for years, but he had always wanted to establish his own business. Don’s “factory” was located in a small garage at the Garden Mart, with inventory and assembly taking place on the ground floor, while the upstairs served as an office with another area set aside for repairs and design. Don began by redesigning the CX7A, resulting in the model CX7B. Only a handful of CX7B’s were made here, but most of the production units were a new model, the CX11. [22]

The CX11 was Don’s next re-design effort. Only 15 of these were produced [\*\*\*] before Don re-designed again, producing a CX11A. By 1979, after producing a handful of the CX11A’s, Don began his move of Signal/One again, this time to Scottsdale, Arizona. [23] By 1981, Don was planning another design, the MILSPEC 1030, to compete with the Collins 380 transceiver, which was a successful effort, and for which he received a Government contract. By the late 1980’s Don was planning yet another design, a re-

## **The Way We Were, continued.**

working of the Icom IC-781. Two versions were built, only six of one and 15 of the other. [\*\*\*\*] But by the early 1990's the plan never fully materialized, and things began to unravel for Signal/One. [24]

The final chapter of the Signal/One story is a sad one. It has been reported that Don was tragically killed in a motorcycle accident in 2013, with much of the remaining Signal/One inventory sold at auction. Prior to this, beset by financial woes, he had been living incognito in a converted shipping container in a remote area of Colorado, and all additional company material was lost. [25] Don was a brilliant engineer and a perfectionist; but unfortunately, he was less successful as a businessman. Today, Signal/One remains one of those legendary companies in amateur radio history, and their products have inspired a hard core of dedicated collectors. I wish to acknowledge the many contributions of Fred Hoffmann K5OG and Bob Dietz W2RWD, for invaluable information about Signal/One in preparing this article. For some inside historical information about Signal/One, please refer to K5OG's Signal/One historical page, at: <http://www.signalone.org/S1%20History/S1%20History.htm>

## **SQUIRES-SANDERS, INC.**

**417 Watchung Ave., Watchung**

**(Later: Martinsville Rd., Liberty Corner [Millington, Long Hill Township])**

Squires-Sanders introduced their first product in 1963. It was the ham band-only SS-1R receiver covering 80 through 10 meters, designed by William K. Squires W2PUL. It featured the first use of two 7360 Beam Deflection tubes in the RF Mixer stage of an HF receiver. By March of 1964, it was announced that the SS-1T, a matching transmitter, would soon follow; but for some reason, it was only prototyped and never manufactured. The receiver, which was an advanced design, offered the inclusion of an SS-1S Noise Silencer, available as an option to be installed in the SS-1RS speaker assembly. The principles of this Noise Silencer were described in *QST Magazine*, October, 1963, and later Patented. [26]

In 1964, the company introduced its SS-1V Video Bandscanner, using a cathode ray tube to provide "panoramic" view of the bands — a feature not common until the present day. Further improvements to the SS-1R receiver were added in 1965, followed by the introduction of a new model, the SS-IBS, which was designed specifically for international shortwave broadcast listening, and first advertised in 1967. Then, a series of Military contracts followed, including one for the AN/URR-58 receiver, covering 10 kHz through 30 MHz, followed by a high performance receiver for the U.S. Coast Guard, type number unknown. [27]

**The Way We Were, continued.*****The New Standard of Performance***

The SS-1R sets a new standard of performance for amateur band communication receivers. A completely new front end design<sup>1</sup> provides superb freedom from cross modulation and overload, while the low noise balanced mixers deliver superior sensitivity — with *no r.f. stage*. Steep-skirted crystal bandpass filters and newly developed high-Q IF circuits provide optimum selectivity with greater than 80 db ultimate attenuation. Extreme linearity, double loop AGC and front end freedom from cross modulation make this selectivity as effective as though it were at the *antenna terminals*. Frequency precision and stability exceed that of most frequency meters; frequency is read directly on a digital display.

There are many new operating conveniences not found in other amateur equipment. The unique SS-1R design, plus fixed tuned WWV positions at 10.0 and 15.0 MC (and an auxiliary 5.0 to 5.5 MC band), permits autocalibration of the amateur bands — *with no cursor lines to twiddle*. The manual tuning rate is slow enough for easy and exact sideband tuning — 10 kc. per knob revolution — while pushbutton motor tuning gives fast traverse. An optional noise silencer accessory with spectacular performance<sup>2</sup> is available, as will be a Video Bandscanner. The SS-1R may be operated in transceiver mode with the SS-1T transmitter.

<sup>1</sup>"A New Approach to Receiver Front-End Design", W. K. Squires, W2PUL, QST, Sept. 1963. <sup>2</sup>"A Pre-LF Noise Silencer", *ibid.*, Oct. 1963.

**SPECIFICATION PROFILE**

- **Frequency Coverage:** 80 through 10 M (eight 500 kc. segments). Fixed tuned WWV at 10.0 and 15.0 MC; 5.0-5.5 MC auxiliary (WWV 5.0 MC). Two general coverage 500 kc segments
- **Selectivity:** 5 kc./2.5 kc./0.35 kc.
- **Stability:** Less than 500 cps warmup drift (typically in less than 5 min.); less than 100 cps thereafter including low to high line variation
- **Sensitivity:** 1/2  $\mu$ v, or better, for 10 db S/N on 10 M with 5 kc. bandwidth
- **LF and Image Rejection:** Greater than 60 db
- **Cross Modulation:** Example: Receiving a 10  $\mu$ v signal with 2.5 kc. selectivity, an unwanted 0.1 volt signal 20 kc. away produces negligible cross modulation
- **Internal Spurious:** None at stated sensitivity
- **AGC:** Attack — 1 ms., Slow release — 1.0 sec., Fast release — 0.1 sec. Audio rise less than 2 db from 5  $\mu$ v to 0.3 volt
- **ANL:** L.F. type; operates on AM, SSB, and CW
- **Size:** 7 1/4" H x 16 1/4" W x 13" D, 25 lb.

**Squires-Sanders, Inc.**

475 WATCHUNG AVENUE, WATCHUNG, N.J. • 755-0222

73 Magazine, December, 1963

The association of Squires-Sanders with well known VHF equipment manufacturer Clegg Laboratories (see above) began in 1963 and continued until 1968. A number of additional products followed, including seven CB transceiver models, beginning in 1965, until 1969. [28] I recall once seeing one of these, a fully solid-state design at a hamfest some years ago. I foolishly passed it up, not realizing its future value as a collectible.



## **The Way We Were, continued.**

One other, but forgotten product was their model SS-FM Alert, produced in 1966. This was a tunable FM receiver for monitoring the public safety bands of 30 to 50 MHz and 152 to 175 MHz, at a time before VHF scanners were being produced.



**Squires-Sanders FM Receiver**

The new S-S FM Alert emergency receiver features two crystal controlled channels as well as variable tuning. It comes in two models: 152 for 152-175 mc, and 30 for 30-50 mc. The FM Alert offers excellent performance, convenient operation and versatility. Squelch is provided for easy monitoring. Price is only \$89.95, with a separate matching speaker available for \$9.95. You can get more information from Squires-Sanders, Martinsville Road/Liberty Corner, Millington, N.J. 07946.

*73 Magazine, August, 1966*

The story of Squires-Sanders came to an end with the death of founder Bill Squires in 1970. They were one of several companies producing high quality electronics in North Jersey during the 1960's, and are missed by discriminating amateurs and collectors.

## **SYNTELEX**

### **39 Lucille Ave., Dumont**


Only one product of this small company was advertised, model SDA-100 Solid State Decade Amplifier – to convert a VOM, VTVM, or FET-VM into a “sensitive audio and I.F. millivoltmeter.”

## The Way We Were, continued.

**SDA-100  
SOLID STATE  
DECADE AMPLIFIER**

- This versatile new unit converts your own VOM, VTVM, or FET-VM into a sensitive audio and I.F. millivoltmeter.
- It can also be used as a wide-band, low noise pre-amp for oscilloscopes.
- Maximum gain X100
- Input Impedance 1.11 meg
- Output Impedance 100 ohms
- Freq. Response 10hz to 1mhz
- Silicon FET and transistors
- Epoxy PC board, bakelite case
- Internal battery, shielded

**SYNTELEX**  
Dept. HR-1, 39 Lucille Ave., Dumont, N. J. 07628



**\$34.95 ppd**  
check or m.o.  
send for info

*Ham Radio Magazine, July, 1969*

The unit could also be used as a wide-band, low noise preamplifier for oscilloscopes. It was all solid state, using FETs and transistors. Nothing further is known about Syntex. A Google search reveals that the address belongs to a small residence on a suburban street, so the company was a home-based business.

## TECRAFT (The Equipment Crafters)

### 532 Winne Ave., River Edge (Later: Hackensack and Kearny)

Tecraft ("TECH-craft") was founded by President and Chief Engineer Kurt Treptau K2CEM, around 1957. First operating from his home, Kurt later moved his manufacturing to Hackensack, using a South Hackensack mailing address.

The company was the first local manufacturer of high quality VHF receiving converters and transmitters. His most famous converter products were the "Criterion" series, which employed the new miniature metal tubes known as nuvistors, for exceptionally low noise reception.

## The Way We Were, continued.



THE *Criterion*

Traditionally the Finest

UHF - VHF CONVERTERS \$49.95

Available for 50 MC, 144 MC and 220 MC

**TECRAFT VALUE**

- .1 uv sensitivity
- Low noise neutrode nuvistor R.F. stages
- Very low noise Triode mixer
- Optional AVC or manual R.F. gain control
- Variable impedance cathode follower output
- Output attenuator
- Self contained power supply
- Maximum rejection of image and spurious responses
- Universal I.F. output and dual crystal oscillator permit maximum tuning range with Ham band receivers.

*Tecraft*

THE EQUIPMENT CRAFTERS, BOX 84, SOUTH HACKENSACK, N. J. AT 8-9020  
Area Code 201

VHF Horizons, March, 1963

In their day, the "Criterion" series were possibly the best converters available to VHFers, for the 6 meter, 2 meter, and 220 MHz bands; but other bands could be provided on special order. They boasted a sensitivity of 0.4 microvolts, an almost unheard of figure in those days. The "Criterion" series included a built-in power supply, another unusual feature in those days. I had once owned their 6 and 2 meter versions, and they were very good, indeed.

## The Way We Were, continued.

Their transmitters were also popular, also covering 6 and 2 meters and 220 MHz, using a 6360 final amplifier and running about 20 Watts input, plate modulated (AM). I once also owned a Tecraft 6 meter transmitter, later donating it to a newly licensed amateur.

**Tecraft**  
The Equipment Crafters  
Box 84  
South Hackensack, N. J.




The Criterion converters are available for 50-54, 144-148 and 220-225 mc. Outputs available from 6-50 mc, built-in power supply, 2 tubes, 2 nuvistors, 4 mc flat bandpass. Price: \$54.95.  
The Tecraft transmitters are available for 50, 114 and 220 mc. All include one crystal and have 6360 final at 20-25 watts input. Plate modulation, less power supply. Price: \$65.95, power supply \$39.95.

73 Magazine, July, 1964

They also manufactured a "Falcon Radiophone" series of CB transceivers, [29] none of which I have ever seen except in advertising; but that I suspect were probably among the better designed CB equipment of their day. Here's an ad for one of their late-series "Falcon" transceivers, from the 1960's:

**NOW** Tecraft presents the **"MARK V"**  
to those who appreciate the best!

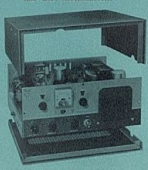


for use in . . .

- TRUCKS
- TRACTORS
- BOATS
- CARS

**PUSH THIS . . .** to establish communication with your home, boat, car, camp, yacht club, tractor, pickup, salesman . . . or with anyone equipped with a FALCON MARK V or similar radiophone !!!  
From its compact functional design to its exclusive engineering features, the New FALCON Radiophone brings matchless performance to you. Its ruggedized construction insures long trouble-free service. The New FALCON combines quality with versatility . . . can be operated either vertically or horizontally to meet space requirements of your home, office, boat or car. In a class by itself . . . the FALCON has been deliberately designed and engineered to be the finest. It is priced right . . . complete and ready for operation. For excellence without equal . . . the FALCON MARK V is for you!

**IMMEDIATE ACCESSIBILITY AND EASY INSTALLATION!**



Tecraft Equipment has been produced for the past 15 years. Unswerving adherence to concepts of quality have won prestige and wide acceptance for products bearing the name . . . **TECRAFT!**

**Tecraft**  
SALES CORPORATION  
P. O. Box 84 • South Hackensack, N. J.  
PLANT: TETERBORO, N. J.

Image: <https://www.retrocom.com/cbads11a.htm>



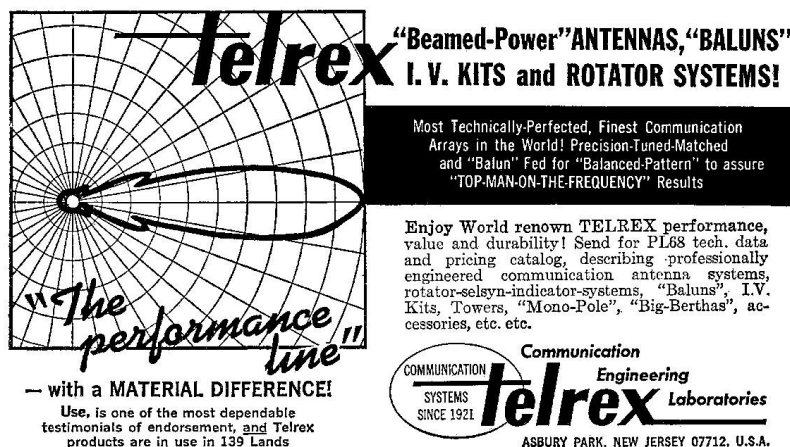
## The Way We Were, continued.

In its final years, Tecraft was associated with Reno Signal Manufacturing in Kearny [30], about which no further information can be found. Kurt Treptau, founder of Tecraft, passed away around 1970 – which brought an end to the company.

## TELREX COMMUNICATION ENGINEERING LABORATORIES

### Asbury Park (Later: 216 Route 35, Neptune Township)

In the annals of commercial amateur antenna manufacturers, one name that stands tall among the others was Telrex. Their products were among the best engineered, and most ruggedly built. Telrex was founded by Mike Ercolino W2BDS, an antenna engineer who started in business by designing and manufacturing TV antennas. But since the 1950's, his best customers have been amateurs.



**telrex** "Beamed-Power" ANTENNAS, "BALUNS" I. V. KITS and ROTATOR SYSTEMS!

Most Technically-Perfected, Finest Communication Arrays in the World! Precision-Tuned-Matched and "Balun" Fed for "Balanced-Pattern" to assure "TOP-MAN-ON-THE-FREQUENCY" Results

Enjoy World renown TELREX performance, value and durability! Send for PL68 tech. data and pricing catalog, describing professionally engineered communication antenna systems, rotator-selsyn-indicator-systems, "Baluns", I.V. Kits, Towers, "Mono-Pole", "Big-Berthas", accessories, etc. etc.

COMMUNICATION SYSTEMS SINCE 1921 **telrex** Engineering Laboratories  
ASBURY PARK, NEW JERSEY 07712, U.S.A.

"The performance line"  
— with a MATERIAL DIFFERENCE!  
Use, is one of the most dependable testimonials of endorsement, and Telrex products are in use in 139 Lands

73 Magazine, September, 1968

Most Telrex antennas were monoband Yagi beams for 40 through 2 meters. I also believe they made one model for 220 MHz. But they also made wire antennas, baluns, and sold the "Big Bertha," a combination giant mast/tubular tower (actually manufactured by an OEM for them), [31] that rotated at the base, and that could handle tremendous weight. It was a favorite of serious (and well-heeled) DXers.



**TELREX (Patd.) "BALUN" FED "INVERTED-V" ANTENNA KITS**

EASY-TO-INSTALL, HI-PERFORMANCE LOW-FREQUENCY ANTENNAS

"Mono" Bands from \$23.95—Also "Trapped" 2 and 3 Band Kits.  
3, 4 or 5 Band "Conical-Inverted-V" Antennas from \$52.95  
3, 4 or 5 Band, 5 to 10 DB—"Empirical"—I.V.—Logs"—S.A.S.E.

WRITE FOR TELREX PL 68 **TELREX COMMUNICATION ENGINEERING LABORATORIES—ASBURY PARK, N. J. 07712**

Mfd. under Telrex Pat. 2,576,929

73 Magazine, September, 1968

## The Way We Were, continued.

I once owned a Telrex "Spiralray" 11 element 2 meter beam. It was an unconventional design, using elements that were installed along the boom starting in a horizontal plane, with each succeeding element shifting several degrees, until the final director element was vertical. The object was to propagate a signal that would climb over obstructions such as mountain-tops, and mine worked well.

A favorite DX antenna for many years was the Telrex model 203BA (3 element monoband 20 meter Yagi), which was widely known for its excellent performance. A well known DXer in Saddle Brook once had 2 of them stacked on his tower, spaced nearly one wave apart. His 20 meter signal on 14.205 was legendary.

Although Mike Ercolino passed away many years ago, and Telrex is no longer in business, DX Engineering is still selling off remaining inventory of large Telrex log periodic beams, chiefly intended for government and commercial customers. [32] There are also, I'm sure, plenty of Telrex amateur beams made fifty years ago that are still in use by amateurs today. They were not cheap in any way, and built to last.

## UNITED ELECTRONICS CO.

42 Spring St., Newark

### NEW SSB ZERO BIAS TRIODE

The UE572A is a zero bias triode and has been specifically designed for Single Side Band applications.

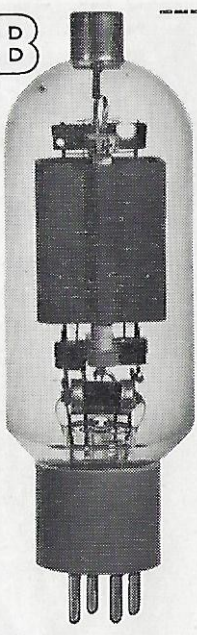
The UE572A will serve as a direct replacement for the 811A and with its plate dissipation of 160W, it is capable of handling twice the power of the 811A. Two UE572A's in parallel will permit a total power input of one kilowatt.

D.C. Plate Voltage...2750V  
D.C. Plate Current...350 ma  
Filament: Bonded Thorium  
Voltage .....6.3 volts  
Current .....4 amperes

For a technical bulletin, write to section 361

**UNITED ELECTRONICS  
COMPANY** a subsidiary of **GENERAL  
ELECTRONICS  
INC.**

42 Spring Street • Newark 4, New Jersey • HU 4-6300



United Electronics was established in 1934, [33] achieving great success as a supplier to the U.S. Military during World War II, and specializing in manufacturing high power transmitting tubes. In the 1960's, a new "zero bias triode" came upon the scene as an updated replacement for the popular 811s and 811As, which had been used first as single-ended final tubes, but that later found extensive use in SSB linear amplifiers in the 1950's and '60's. This new version was the 572A and 572B, and United Electronics joined the list of companies supplying these to amateurs.

The 572s ran cooler than the older 811As, and were capable of somewhat greater output power. United Electronics ceased operations many years ago, and its factory has since been demolished. [34]

73 Magazine, June, 1963

**The Way We Were, continued.****WHIPPANY LABORATORIES, INC.****1275 Bloomfield Ave., West Caldwell**

Whippany Labs was another of several local companies specializing in high quality VHF equipment. Their only products were for 6 meters. They began production of the “Li'l Lulu” transmitter in the early 1960's, but the history of the “Li'l Lulu” goes back further. About 1960, Ed Ladd W2IDZ designed the original version as a club project for the Morris Radio Club. [35] Hundreds of them were built, and soon Ed established Whippany Labs to produce it commercially. [36] It was a compact, high performance, low power transmitter that included a built-in VFO — a real convenience in those days, since most VHF transmitters were only crystal-controlled. The commercial version also included a built-in power supply.



**"ALL THAT YOU CLAIMED ... AND MORE"**

*Li'l Lulu*  
COMPLETE  
50 MC.  
TRANSMITTER  
DESIGNED BY F. E. LADD, W2IDZ

**"INSTANTUNE"**  
The only single-knob VFO  
ganged-tuned 50 Mc. transmitter  
commercially available.  
Be able to QSY instantly!

Price **\$225.00** through your dealer  
Dealer inquiries invited

"Li'l Lulu" is doing a very fine job here. She is all that you claimed she is and more. Nothing but good reports, even from the older critical Hams. On the 13th I worked skip into Naples, Florida, and the VFO sure came in handy to move around the band ... met quite a few new Hams.

Ralph Stavermann, K8WYE  
Cincinnati, Ohio

Schematic and full  
particulars available on request

**WHIPPANY LABORATORIES, Inc. • 1275 Bloomfield Ave., West Caldwell, N. J.**

*6UP Magazine, May, 1964*

Some time thereafter, Ed designed a matching 6 meter receiver, model 68000. I have never seen one, and very few people ever have. One source [37] reports that “only about 254” “Li'l Lulu” transmitters were produced, and “only about six” receivers, five of which have been located. Ed Ladd passed away in 1994, and today his Whippany Labs products are highly sought after by collectors.

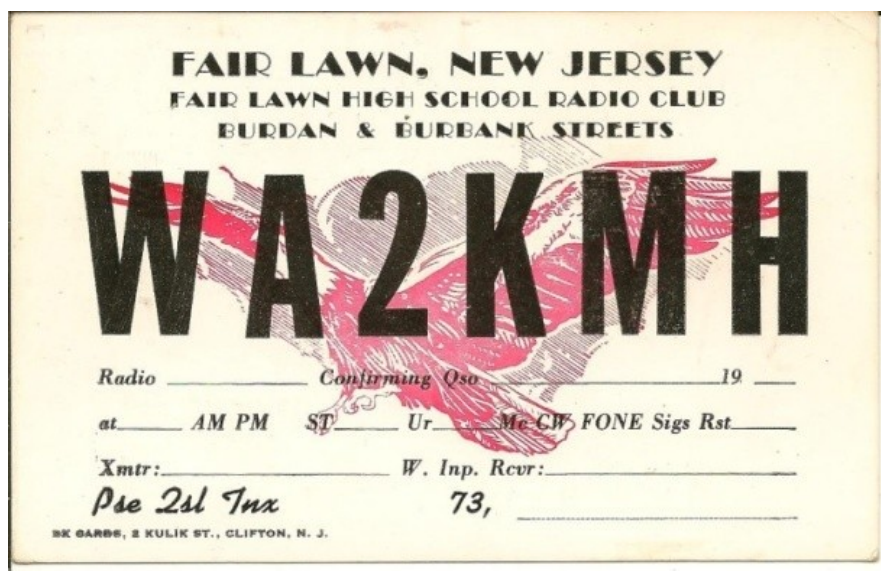
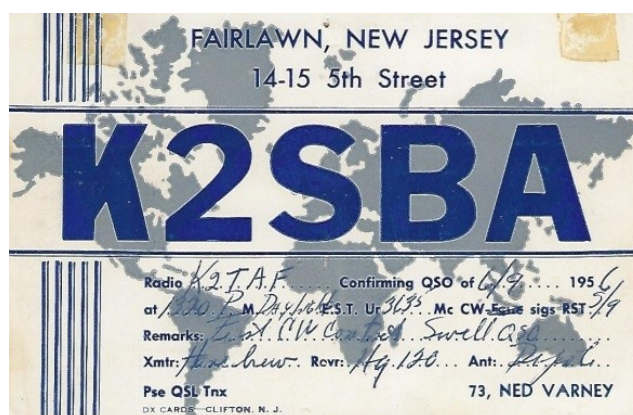


## The Way We Were, continued.

### QSL PRINTERS

#### DX CARDS (2 Kulik St., Clifton)

Established by Stu Goodman, K2RPZ, [38] originally of Passaic, DX Cards produced thousands of QSLs from the 1950's through the 1960's. Each card had a distinctive "look" about them, and they were quite popular. Stu's print shop was located in a small commercial space on the corner of Lexington Avenue. I once worked a mere 1 block away, on the corner of Lexington and Russell Street, but I never made the connection about Stu's location at the time. There is now a deli at that address. In later years, Stu relocated to Rocky Point, Long Island, continuing his QSL printing business until his retirement in Florida, followed by his death some time thereafter. [39] Here's a gallery of some of Stu's cards:



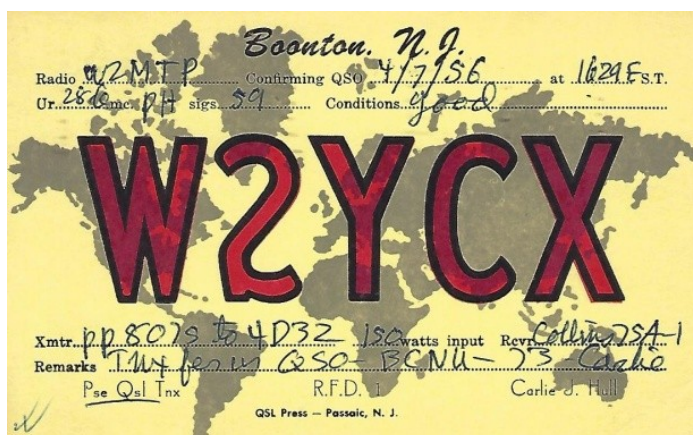
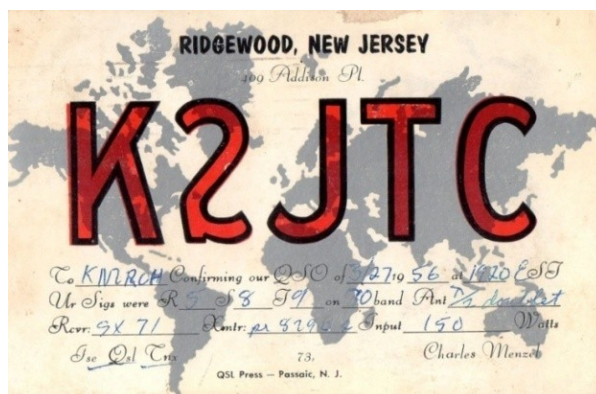
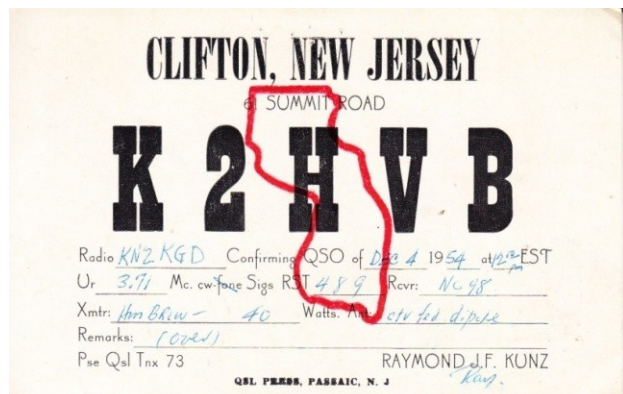
All images: Author's collection



## The Way We Were, continued.

### QSL PRESS (Unknown address, Passaic)

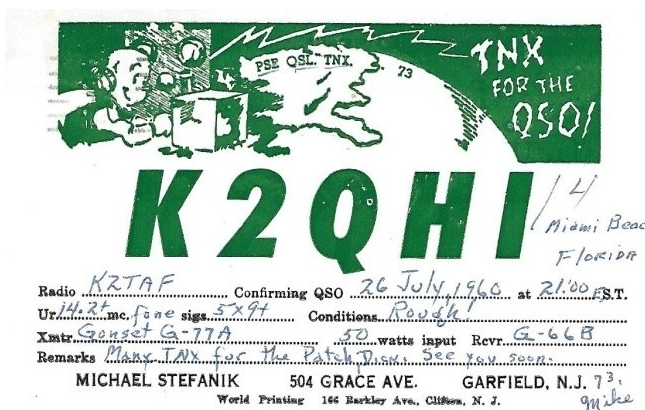
No further information about QSL Press is known, but here are some samples of their work:



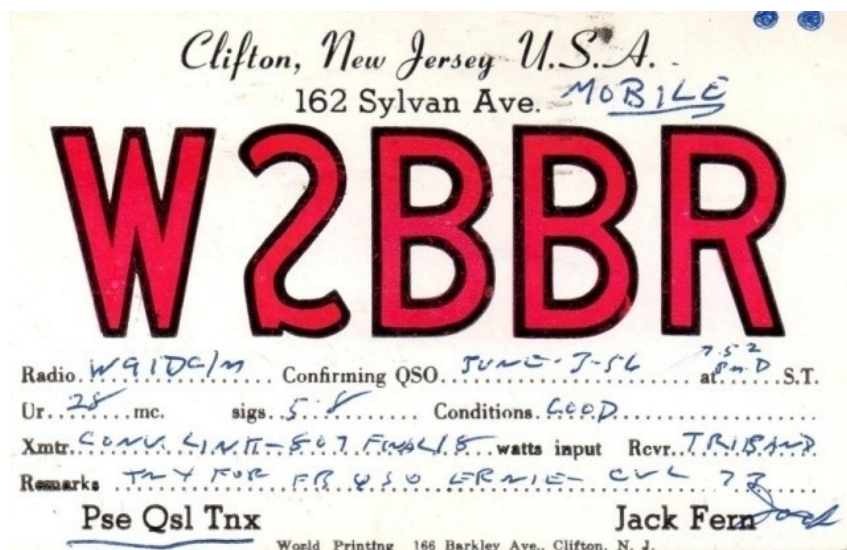
All images: Author's collection

### WORLD PRINTING (166 Barkley Ave., Clifton)

Nothing more is known about World Printing either, but here are some examples:



## The Way We Were, continued.



All images: Author's collection

If anyone reading this can supply further information about QSL Press or World Printing, or about any other companies covered in this column, please contact your columnist.

This has been an interesting journey back in time, one not without its challenges, but with its rewards, too. We can see that at one time, North Jersey made a major contribution to electronics, and specifically to the opportunities it provided for amateur radio operators.

Before Southern California was known as Silicon Valley, we were way ahead of them in electronic technology. We might call ourselves "Thermionic Valley," since some of the most important work done here was during the heyday of vacuum tube technology.

We're still contributing, though, only today, our contributions are silicon-based.

Until next month, 73,

Fred, W2AAB

**NOTES for this story begin on the following page.**

## The Way We Were, continued.

### NOTES:

- [1] "Climaster 62T10," *Radio Museum*, at: [https://www.radiomuseum.org/r/clegg\\_lab\\_climaster\\_62t1062\\_t\\_1.html](https://www.radiomuseum.org/r/clegg_lab_climaster_62t1062_t_1.html)
- [2] "Apollo Six," *Radio Museum*, at: [https://www.radiomuseum.org/r/clegg\\_lab\\_apollo\\_six.html](https://www.radiomuseum.org/r/clegg_lab_apollo_six.html)
- [3] "The Clegg Apollo Thread," *QRZ.com Forums*, at: <https://forums.qrz.com/index.php?threads/the-clegg-apollo-thread.573644/>
- [4] "Yes, Finally, 2 Meter AM Contacts are Back," Comment by Steve, WB2WIK, *QRZ Forum: VHF-UHF – 50 MHz and beyond*, at: <https://forums.qrz.com/index.php?threads/yes-finally-2-meter-am-contacts-are-back.713905/page-3>
- [5] Ibid.
- [6] KM4NYI QRZ page, at: <https://www.qrz.com/db/KM4NYI>
- [7] Posting by "Tom Herman" *Antique Radios Forum*, September 22, 2018, at: <https://antiqueradios.com/forums/viewtopic.php?t=346789>
- [8] "Trade Catalogs from Datak Corp.," *Smithsonian Institution: National Museum of American History, Business Center*, at: [https://americanhistory.si.edu/collections/search/object/SILNMAHTL\\_13062](https://americanhistory.si.edu/collections/search/object/SILNMAHTL_13062)
- [9] LKG Industries, Inc. website: <http://www.philmore-datak.com/>
- [10] "Fugle-Miller Laboratories, Inc.," *Manta*, at: <https://www.manta.com/c/mmbpg56/fugle-miller-laboratories-inc>
- [11] "Nongovernment Organization Codes for Military Standard Contract Administration Procedures (MILSCAP) United States and Canada," *Defense Supply Agency, Defense Logistics Services Center, Battle Creek, Michigan*, October, 1974
- [12] "Fugle-Miller Laboratories NSN Parts," *Part Target*, at: [https://www.parttarget.com/Fugle-Miller-Laboratories\\_nsn-parts.html](https://www.parttarget.com/Fugle-Miller-Laboratories_nsn-parts.html)
- [13] *Wikipedia article*: "Television Channel Frequencies," at: [https://en.wikipedia.org/wiki/Television\\_channel\\_frequencies#North\\_America, South America, Caribbean, South Korea, Taiwan, Burma \(Myanmar\) the Philippines %E2%80%93 assignments since February 25, 1946](https://en.wikipedia.org/wiki/Television_channel_frequencies#North_America,_South_America,_Caribbean,_South_Korea,_Taiwan,_Burma_(Myanmar)_the_Philippines_%E2%80%93_assignments_since_February_25,_1946)
- [14] Vincec, "Automotive History: Electronic Ignition – Losing the Points, Part 2," *Curbside Classic*, May 14, 2019, at: <https://www.curbsideclassic.com/automotive-histories/automotive-history-electronic-ignition-losing-the-points-part-2/>
- [15] "Invertronics" listing, *Yellow Pages*, at: <https://www.yellowpages.com/lake-hiawatha-nj/mip/invertronics-2501339>
- [16] "Polytronics Poly Comm Pro" Addresses via posting by "zazzman" on *Radio Reference Forums*, April 27, 2019, at: <https://forums.radioreference.com/threads/polytronics-poly-comm-pro.385378/>
- [17] "Lafayette HB-333 Series A," *The Old Tube Radio Archives*, at: <http://www.oldtuberadio.com/lafayette-hb-333-series-a/>
- [18] "Dr. Eugene G. Chenette, N5YJ," Obituary, posted in the *Signal One Reflector* by Kip Moravec, *Signal One* website (K5OG), at: <http://www.signalone.org/S1%20History/Chenette.html>



## The Way We Were, continued.

[19] "General Operating Instructions for the Model CX7 Deluxe Integrated Station," *Signal/One*, July 1, 1970, at: <https://www.hamanuals.com/S1/CX7/Manuals/OperFla.pdf>

[20] "K8RR History," *Signal One* website (K5OG), at: <http://www.signalone.org/S1%20History/K8RR%20History.html>

[21] Payne, Don, K4ID, "Signal/One," *73 Magazine*, Correspondence, March, 1974, p. 110

[22] Private correspondence with Bob Dietz, W2RWD, former employee of Signal/One in Franklin Lakes, NJ

[23] Ibid

[24] "K8RR History," Ibid.

[25] Hoffmann, Fred, K5OG, "Don Roehrs: March 24, 2017 Update," *Signal One* website (by K5OG), at: [http://www.signalone.org/Don\\_Roehrs.html](http://www.signalone.org/Don_Roehrs.html)

[26] Italia, Vincent, "Squires-Sanders, Inc.: Innovations in Electronic Communications," at: <http://www.radiopharos.it/SQUIRES-SANDERS,%20INC. n.p. 4.htm>

[27] Ibid

[28] Ibid

[29] "Tecraft," *The Old Tube Radio Archives*, at: <http://www.oldtuberadio.com/manufacturers/tecraft/>

[30] Ibid

[31] Blumhardt, Paul V., K5RT, posting January 7, 2017, on "Telrex 40 Meter Beam Info" *QRZ Forum*, at: <https://forums.qrz.com/index.php?threads/telrex-40-meter-beam-info.550267/>

[32] "Telrex Log Periodic Antennas," *DX Engineering* website, at: <https://www.dxengineering.com/search/brand/telrex-antennas/product-line/telrex-log-periodic-antennas/part-type/hf-yagi-hexx-beam-and-rotatable-antennas?fr=part-type&autoview=SKU&sortby=Default&sortorder=Default>

[33] (Anonymous), "United Electronics Company: 1944," (A study of their advertising), *History, at Random*, at: <http://thepastpresented.com/index.php/2017/09/13/united-electronics-company/>

[34] Ibid

[35] Ladd, Francis E., W2IDZ, Letter to the editor of *Six News*, July, 1994, at: <http://www.uksmg.org/content/w2idz.htm>

[36] Ballantine, Robert R., W8SU, "Francis Ed Ladd W2IDZ – W3ERX – W1GHD \* 1914-1994\*" (Obituary), *Old QSL Cards*, at: <http://www.oldqslcards.com/w2idz.pdf>

[37] Markavage, Peter A., WA2CWA, Posting dated December 30, 2007, "A Six Meter Legend Revisited," *QRZ Forums*, at: <https://forums.qrz.com/index.php?threads/a-six-meter-legend-revisited.147212/page-2>

[38] Conversation with Bob Antoniuk, N2SU, June 14, 2021.

[39] "Stuart D. Goodman," *True People Search*, at: <https://www.truepeoplesearch.com/details?name=Stuart%20Goodman&citystatezip=Rocky%20Point%2C%20NY&rid=0x0>

[\*], [\*\*], [\*\*\*] Private correspondence with Fred Hoffmann, K5OG, June 21, 2021

[\*\*\*\*] Private correspondence with Bob Dietz, W2RWD, June 21, 2021



## Around the Shack

Hal Kennedy N4GG/4

### 100 Years of Beverages

June 7, 2021 is National Beverage Day. I made that up, but it's a reasonable idea. I did research it a little. There already is a National Beverage Day. It's May 5th and in celebration of beverages (small b). It seems all the good days are already taken.

This month I'd like to touch on the history of the Beverage antenna and highlight a few of its attributes people may have missed. Such as:

- They don't have to be as long as you think they do.
- They are not just for the low bands.

Harold H. "Bev" Beverage invented his eponymous antenna in 1921. He received patent US1381089A for his "Radio Receiving System" on June 7th of that year. The patent expired in 1938. The Beverage antenna was, and is, a great invention. It has stood the test of time. Both hams and commercial stations still put them up and use them to advantage. The largest ham Beverages are typically one wavelength long at 160 meters – 545 feet, although a lucky few have room for Beverages that exceed that length. Over the years there have been Beverages built at commercial HF stations that are many thousands of feet long, but not necessarily many wavelengths long.

By the end of 1921 Beverages up to nine miles in length had been installed by RCA at Riverhead, NY; Belfast, ME; Belmar, NJ and Chatham, MA, for transatlantic radiotelegraphy (not telephony). Each of those locations is on salt water. 1921 was a tipping point for radio technology. Hams had mostly, but not completely, moved from spark to CW.

Commercial stations were all CW but hadn't been for very long. Regenerative receivers were just coming about. Commercial station transmit power was mostly limited to less than 10 KW (with one exception). Long distances were covered by BIG antennas on very LOW frequencies.

The exception for high power was achieved by a device called the Alexanderson Alternator. About 20 of these were built. They put out 250 KW on frequencies below 20 KHz. One still exists. They were huge and hot. Station operators used to sleep next to them to keep warm. There were other high-power ideas tried in those days, including something called the Poulsen Arc, but most proved impractical.

From Wikipedia:

"Perhaps the largest Beverage antenna – an array of four phased Beverages three miles long and two miles wide – was built by AT&T in Houlton, Maine, for the first transatlantic telephone system opened in 1927."

That's a six square mile antenna. I don't have a description of that Houlton station nor know its operating frequency, but I modeled a 9 mile long Beverage thinking I would see phenomenal performance. Performance goes up as length in wavelengths increases. Modeling at 20 KHz, a 9 mile long Beverage turns out to be one wavelength long! It's the same as a 545 foot Beverage on 160 meters. Modeling indicates the performance for the two is practically identical.

Meanwhile, longer Beverages (in terms of wavelengths) produce exceptional performance. If the RCA stations with 9 mile Beverages were operating at 500 KHz, the antennas would have been

## Around the Shack, continued

24 wavelengths long. Figures 1 and 2 show the azimuth and elevation patterns of a 24 wavelength Beverage at 500 KHz. The patterns tell the story.

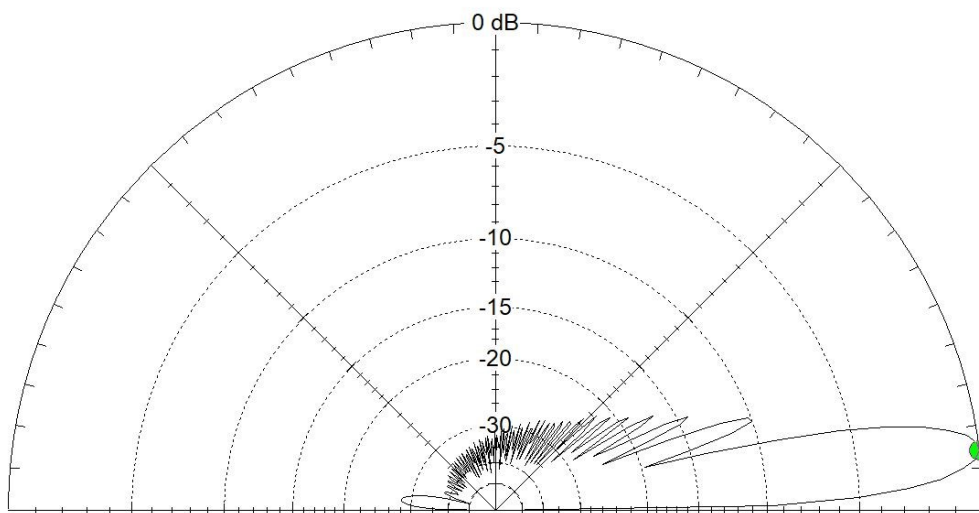


Figure 1. The elevation pattern of a 24 wavelength (9 mile long) Beverage at 500 KHz.

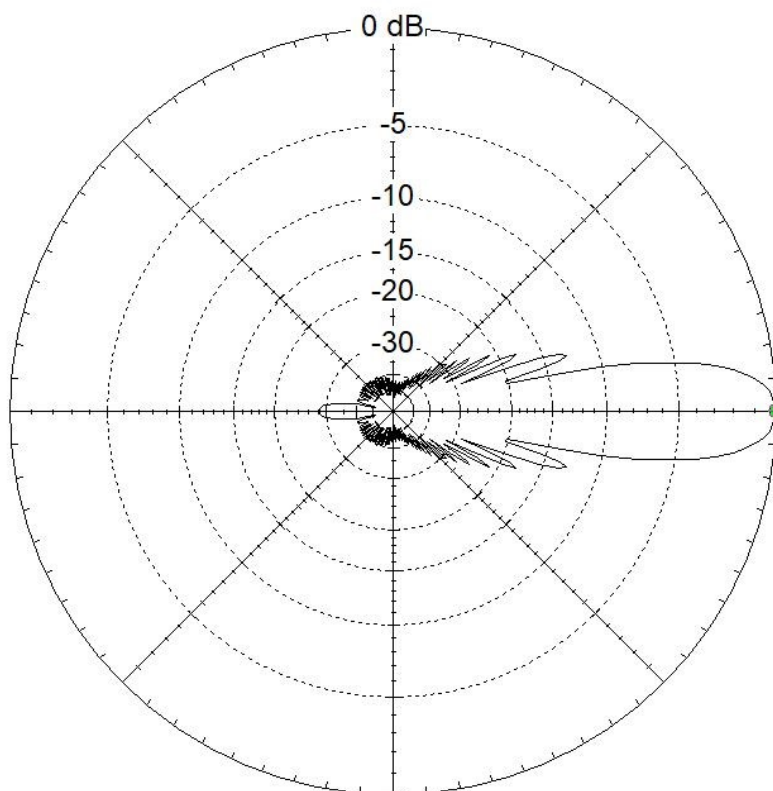


Figure 2. The azimuth pattern of a 24 wavelength (9 mile long) Beverage at 500KHz.

It's important to think of the Beverage antenna in terms of wavelengths, not feet. Which brings me to this month's first point: **They need not be as long as you might think.**

## **Around the Shack, continued**

Two months ago I mentioned the BOG antenna – Beverage On the Ground. BOGs are half the length of conventional Beverages. A 260 foot BOG will perform approximately as a 545 foot elevated Beverage does on 160 meters. Also, Beverage antennas are particularly useful up through 30 meters (10 MHz), given most stations don't have Yagis or arrays (verticals or wires) for frequencies below 14 MHz.

While the extra wavelengths a full sized 545 foot (or longer) Beverage can provide on higher frequencies is always desirable, we can settle for one wavelength and still have useable performance. A one wavelength Beverage for 80 meters is 270 feet long. An 80 meter BOG is 135 feet long. A one wavelength Beverage for 40 meters is 138 feet long. A 40 meter BOG is 69 feet long. Beverages (particularly BOGs ) for higher bands can be practical on small lots.

The second point is that the directional performance of a Beverage is present for all frequencies above the length of one wavelength. For example, a 160 meter (545 foot) Beverage works fine on 80, 40, 20 and even 10 meters. The antenna pattern improves as we go up in frequency because the length in wavelengths is going up. This isn't simply a theory.

W3LPL is a multi-multi transmitter contest station in Maryland. As many as 12 Beverages have been used there at times. They are oriented in azimuth to cover the paths favored for contesting. Each operating position at W3LPL can receive on any of the Beverages and any of the Beverages can be used by more than one rig at a time. For example, at night the Beverage oriented toward Central Europe might be in simultaneous use on 160, 80 and 40 meters. The Beverage farm at that station is complex. There are preamps and bandpass filters used to balance signal levels and prevent the transmitters from overloading the receivers. It all works great.

At W3LPL the 10 meter stacked Yagis will easily out-perform a Beverage receiving antenna, but contest stations sometimes run two rigs on the same band at the same time. To prevent receiver overload, listening on a remote Beverage can mitigate that problem. That's probably not a problem at your station, but I mention it to illustrate Beverages do work on 10 meters.

A few summary comments:

- If, like most of us, you do not have the means to build a 545 foot Beverage, don't rule the antenna out. One wavelength at 40 meters is 138 feet. A 40 meter BOG is 69 feet long and nearly invisible given it's laying on the ground.
- If you are lucky enough to have room for one or more 545 foot Beverages, consider using them as receive antennas all the way up to 10 meters. They will add station flexibility and sometimes hold their own against Yagis, depending on the angle of arrival of signals and the location of local noise sources. The old adage "You can't have too many antennas" comes to mind.

I think it's worth mentioning that one characteristic of Beverages that has sometimes proven difficult is bringing a feed line to the far end. There is now a clever approach that has solved that problem. Using Unified Microsystems BevFlex-4 products, you can place the feed point anywhere along a Beverage. That's usually helpful!

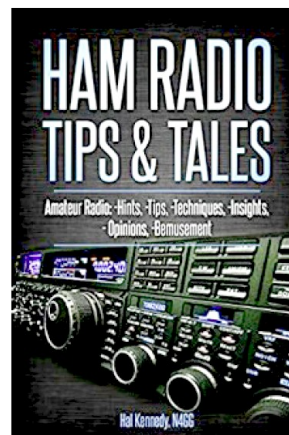
## Around the Shack, continued

In fairness, I do need to mention that as of this writing, some serious DX'ing and contest stations have been replacing their Beverage farms with phased arrays of short verticals. Before making a major investment in receiving antennas, it would be wise to trade the two approaches off for your specific needs and resources.

73,  
Hal, N4GG

If you enjoy the *Around the Shack* columns, you can find more to read in my book: ***Ham Radio Tips and Tales***. Available at Amazon.

[See page 15 of the June 2021 *Resonator*.



Editor's Note: an interesting presentation about ALL the antennas at W3LPL can be found at

<http://www.k3lr.com/Dayton/Dayton2016/w3lpl.pdf>

The beverage antennas are described on pages 18 through 24.

Another good paper is at

<https://wb3anq.com/w3lpl-beverage-antenna-construction/>

Also [http://www.cqdx.ru/ham/ham\\_radio/w3lpl-on-beverages/](http://www.cqdx.ru/ham/ham_radio/w3lpl-on-beverages/)



### Back By Popular Demand:

#### **Barry Feurman K3EUI Discusses NANO VNA As FLARC Kawfee Tawks Continue to Grow**

Coming off a spectacular June *Kawfee Tawk*, Barry Feurman K3EUI will finish and expand what he ran out of time on June 11<sup>th</sup> with a look at EMCOMM needs for digital communications on Friday, July 23<sup>rd</sup>.

He will follow with two Saturday presentations on NANO VNA. November 6<sup>th</sup> will be a beginner's guide to the topic followed on November 13<sup>th</sup> with an expanded overview to the topic.

The club thanks Barry for generously offering his time and let us plan for another big turnout over the upcoming three dates.



**Editorial :**

– by Ed WX2R

As I write this, the state restrictions on gatherings have been mostly lifted and life has begun to have at least a semblance of normality. We await the town's guidance on fully re-entering the clubhouse and that should be shortly - with probably some caveats regarding attendance and usage. The club's Council has been cautious in its approach on protecting its members, based on the club's demographics.

No doubt many members are excited about our return. A few of us have been back inside to pick up and bring back stuff from the ham fest and it was like we were never gone. The rigs and test bench are there waiting for us to return. For many, it will be a first look at what we have to offer, as they have not been inside since they joined the club. You will be pleasantly surprised for sure.

So... it would appear to be "welcome back." For some it will be with abandon - what took us so long? Those vaccinated will hopefully feel at least somewhat comfortable in being in close quarters again with others. Each of us must make our own choice whether to return, how much time to spend, etc. Normality will have fits and starts as the virus has not gone away - based on data and news from the UK, Israel, and elsewhere. But where we are now in New Jersey is a start towards herd immunity and hopefully, lockdowns will be a thing of the past. Use your discretion and continue to use good judgment.

Most clubs that I have spoken with have seen a decline in membership during the pandemic and FLARC appears to be no exception, despite our best efforts. Over a year, life has changed for many and while most hams increased their time on the air, many have not and perhaps their interest has waned. Let us hope that the "bug" that returns will be the ham virus, which is contagious in only a good way and translates into a great club experience that only FLARC can offer. While it will never be the same, remember – with change, it never would be.

**Monitoring:****The BBC Midwinter Antarctic Broadcast**

It might have been the first day of Summer here but June 21st marks the start of Winter in the Southern Hemisphere. The BBC each year does a special program to those isolated UK staff working in Antarctica. Thanks to Jack W2USN for noting the annual program.

The Monitoring SIG put together a listening group — with Fred W2AAB, Jim W2JC and Ed WX2R hearing the special broadcast on 7305 kHz, 11810 kHz and 12095 kHz.

Our intrepid DXer Paul Walker in Alaska could not hear it from his QTH. An mp3 file is up on the group's group.io file page.

<https://fairlawnarc.groups.io/g/monitoring/files>

As always it was interesting content with voices from home and a thanks to all those tucked away until Spring. It was a good day for listening to radio — the temperature at the South Pole during the broadcast was -87F [MINUS 87!] with wind chill of MINUS 110F and cloudy with flurries.

In Fair Lawn, +89F with rain on the way.

Good DXing.

Listen to the Antarctic **Midwinter Broadcast** This is possibly the BBC World Service's most unusual programme as well as serving its smallest intended audience. It is broadcast each year on 21 June to a guaranteed audience this year of just 44 people: the men and women scientists and support staff overwintering at four British bases in Antarctica.



<https://www.bbc.co.uk/programmes/articles/48Gx2jfJBWHyWggDSD19gFT/antarctic-midwinter-broadcast>

[2021 Antarctic BBC Midwinter Broadcast | The SWLing Post](#)

<https://vimeo.com/431316028> [excellent audio]

<https://youtu.be/jvBPg68WrJs>

<https://youtu.be/O-NzBF194mU>

<https://youtu.be/WxmCWV3ixWE>

## Digital Voice Special Interest Group Update

[DigiVoice@FairLawnARC.groups.io](mailto:DigiVoice@FairLawnARC.groups.io)

A Special Interest Group SIG for those interested in Digital Voice modes (Digital Mobile Radio) communications and software.

We are still using DMR TalkGroup 310015 on Tuesday evenings at 7:00pm, so we can always be done before the NorthStar Digital Net – which is at 8:00pm on DMR TalkGroup 31630. We thank Brad for the use of his DMR TalkGroup for this net.

Another local DMR Net is the BCFMA DMR Net at 7:30pm on Thursday nights. This net is only accessible via direct RF to the BCFMA DMR repeater in Franklin Lakes. For more information on the repeater connection information join the FLARC Digital Voice SIG.

There is a new DMR network out there called TGIF Network. FLARC now has a TGIF Network Talkgroup 14547. More information check the article in this edition of The Resonator. See page 59.

For those interested in joining all the Digital Voice excitement!

Contact Bob H. [KD2BKD@optonline.net](mailto:KD2BKD@optonline.net) for information on the Digital Voice SIG.

Or just go to the club website [FairLawnARC.org](http://FairLawnARC.org) and use the "Join Special Interest Group(s)" link on left.



## Radio Monitoring Special Interest Group Update

[monitoring@FairLawnARC.groups.io](mailto:monitoring@FairLawnARC.groups.io)

A Special Interest Group SIG for those interested in SWL and other radio communications monitoring.

### Dare I Say "CB"?

Because many radio amateurs began experimenting with radio on Citizens' Band (CB) (such as myself — my CB callsign in 1967 was KMD 4346), it is worth discussing this topic here. In fact, it was the cheapest and easiest way to get started when you are young. And, if you liked it, then you kept progressing with the hobby. For about \$50 you can get on 11 meters today.

Say what you will, local or regional contacts with friends or unknown people on CB are fun. But sometimes, unexpectedly, the surprise occurs, and the propagation opens. Then, international contacts are possible, and the excitement is superlative. I remember when I heard a guy in Nova Scotia for the first time and I fell in love with my radio: a used Lafayette HE-20C. It became my pathway to becoming a ham.

The CB facet of radio has morphed much more so in Europe than here in North America. An English magazine, *Radio User*, now has a monthly CB column. Over the years, CB users have been organizing themselves to facilitate and enjoy long distance contacts (DX), and subsequent confirmations with QSL cards, by dividing the world into territories, called "divisions."

These territories, in much the same way as radio amateurs do with entities in the DXCC, tend to be countries; but they can also be islands, overseas regions, areas with certain special characteristics, cultural and/or linguistic ones, etc. In CB, these territories (divisions) have been numbered and that number is used as a prefix of the callsign.

A couple of examples: the current list begins with Italy, which is assigned the division 1, and ends with the most recent assignment: the Republic of

Continued on page 61.

## FLARC has a new DMR Talkgroup

By Bob Holstrom – KD2BKD



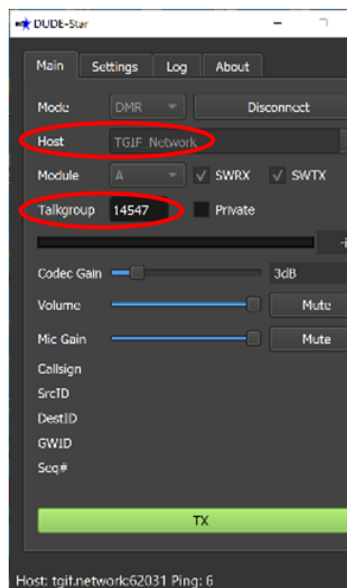
The TGIF Network is a relatively new DMR network. TGIF used to be a talkgroup 31665 within Brandmeister but has since split away from Brandmeister and created their own DMR network. The TGIF talkgroup 31665 is still available on the TGIF Network. TGIF Network talkgroups can be available on repeaters alongside of Brandmeister talkgroups. This would be done by the repeater administrator.

With the capability to request talkgroups on the TGIF Network, FLARC now has talkgroup 14547 on the TGIF Network. This talkgroup numbering was requested because the FLARC repeater frequency is 145.47MHz.

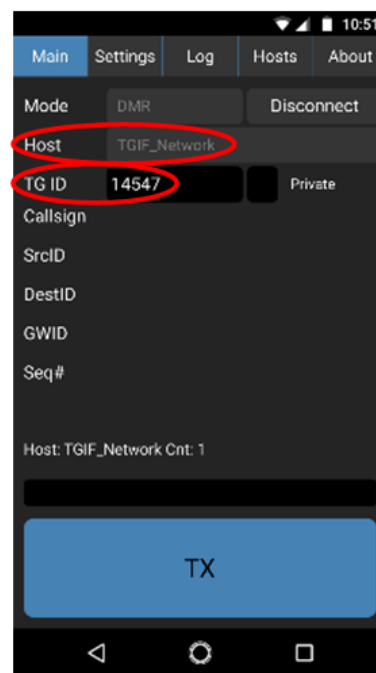
The Tuesday night FLARC Digital Voice SIG at 7:00pm will be held on the "TGIF\_Network" talkgroup "14547" in the future.

To use the TGIF Network you must create a TGIF Network account using your call sign at <https://tgif.network/>. Select "Registration" then "Register" at the top right. Here you will be required to enter your; callsign, name, email, city, state, country. I am guessing the registration looks up your DMR ID in the DMR database. Registration takes about 24 hours. Note that I had issues with my "\*\*\*\*\*@optonline.net" email address receiving confirmation. It seems that optonline does not like the "@tgif.network" part of the receiving email? Once confirmation is received you will be able to connect to the TGIF Network.

To use this talkgroup you will need to change the Host or DMR Master setting in DROID-Star, DUDE-Star, or the hotspot to access the "TGIF\_Network." See the setting examples at right and below.



Change settings in DUDE-Star



Change settings in DROID-Star

**Bob Holstrom – KD2BKD, continued.**

Pi-Star: 3.4.17 / Dashboard: 20190709

## Pi-Star Digital Voice - Configuration

Dashboard | Admin | Expert | Power | Update | Backup/Restore | Factory Reset

### DMR Configuration

| Setting             | Value                               |
|---------------------|-------------------------------------|
| DMR Master:         | TGIF_Network                        |
| DMR ESSID:          | 5148141_05                          |
| DMR Colour Code:    | 1                                   |
| DMR EmbeddedLCOnly: | <input type="checkbox"/>            |
| DMR DumpTADData:    | <input checked="" type="checkbox"/> |

Apply Changes

### Firewall Configuration

| Setting               | Value   |
|-----------------------|---|
| Dashboard Access:     | <input type="radio"/> Private <input checked="" type="radio"/> Public   |
| ircDDBGateway Remote: | <input type="radio"/> Private <input checked="" type="radio"/> Public   |
| SSH Access:           | <input type="radio"/> Private <input checked="" type="radio"/> Public   |
| Auto AP:              | <input checked="" type="radio"/> On <input type="radio"/> Off <span style="float: right;">Note: Reboot Required if changed</span> |
| uPNP:                 | <input checked="" type="radio"/> On <input type="radio"/> Off   |

Apply Changes

The Talkgroup number when using a radio and hotspot, is done in the radio.

There are MANY interesting talkgroups on the TGIF DMR Network.

The full list can be found at <https://tgif.network/talkgroups.php>

Some of the typical talkgroups are:

|           |                    |                          |
|-----------|--------------------|--------------------------|
| 101 – 109 | = Tac-101 – Tac109 | 112 = Asia Pacific       |
| 110       | = North America    | 113 = World Wide English |
| 111       | = Europe           | 114 = World Wide         |

Some special interest talkgroups are:

|                                      |                             |
|--------------------------------------|-----------------------------|
| 117 = HF TALK                        | 140 = Ham Projects          |
| 118 = DX Worldwide                   | 150 = SSTV                  |
| 128 = Network Radios                 | 166 = Route 66              |
| 130 = SKYWARN                        | 173 = New Ham Elmer's Shack |
| 134 = Disaster Relief / Preparedness | 199 = Ham Radio Works       |

Whatever your interest there seems to be a TGIF talkgroup. If there is none for your interest it is not difficult to ask for a talkgroup to be created.



## Satellite

### Special Interest Group Update

Satellite-SIG@FairLawnARC.groups.io

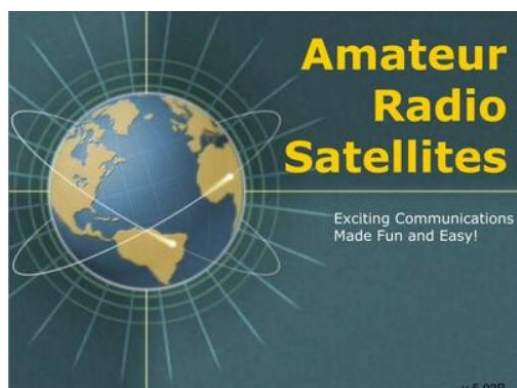
A Special Interest Group SIG for those interested in amateur radio satellites, as well as others like weather, GPS, etc..

We welcome all who are interested in all types of satellite communications. Some interests are AMSAT, ARISS, receiving weather maps from satellites, APRS via ISS, and much more.

For those interested in joining all the Space Radio excitement!

Contact Bob H. **KD2BKD@optonline.net** for information on the Satellite-SIG.

Or just go to the club website **FairLawnARC.org** and use the "Join Special Interest Group(s)" link on left.



## Radio Monitoring

### Special Interest Group Update, cont.

Kosovo, as division 352. Using these divisions, a member association in Spain, FEDI-EA, has launched a CB QSL Party this summer, which EURAO (European Union Radio Amateurs Association) fully supports and adopts for its already traditional contests. The Party's goal is the free exchange of QSL cards "via EuroBureauQSL" for anyone from June to September 2021.

Any activity, individual or club, can participate in this CB QSL Party and attempt to leverage the start of Cycle 25. The only requirement is to use callsigns of the DX type that include the concept "CB division." For example, such as those assigned by FEDI-EA with the format 30FD001 (30 = Spain, FD = Federación Digital, 001 = consecutive number).

I find this idea to be both innovative and alien at the same time. We are not Europeans for sure; from my business experience the social structures of organizations in Europe is subtly different than here. And it is not ham radio; but from what I have learned, there is still a market for CB. While the trucker segment has increasingly moved to smart phones, many users still find it highly relevant. Interestingly, Cobra sells more radios in the CB segment annually than do Icom, Kenwood or Yaesu among amateurs. Somewhere there remains a market for CB.

I just wonder... is there a local opportunity we can tap into to tell both our ham and club story?

Maybe we need to spend more time listening, and learning just who is on the air up there on eleven.

-- Ed WX2R



**Lori & Van W2DLT are hosting:**

## **VANFEST 5**

**Sunday July 18, 2021 - Noon to 5**

**---after the Sussex Hamfest---**

Hey Fair Lawn Amateur Radio Club (FLARC), FRC and friends... **You're** invited - for FOOD-FUN-RELAX-RADIO -whether you are going to the Sussex Hamfest or not...

**But, if you are going to the Sussex Hamfest, you're 3/4 of the way** to Lori & my home/hamshack at 124 Lakeview Terrace, Hemlock Farms, Lords Valley, Blooming Grove Township, PA (Carpool together from the hamfest - save \$)

To plan & let the gate know ur coming, **YOU MUST RSVP by FRIDAY JULY 16th**

**Cell/text 201-207-3346, House 570-775-0738 or mail [vanw2dlt@yahoo.com](mailto:vanw2dlt@yahoo.com)**

--- Family/Kids Welcome - - we have a large fenced-in deck and gazebo overlooking the lake

--- We have a hot-tub on the deck. Swimming in the lake and/or outdoor-indoor pools

--- Hiking/Fishing (PA license required - 16 and over - available on-line)

--- Ham Radio - OF COURSE!

--- Bring something to share if you like, not required - let me know so we don't end up with 50# of potato salad!

**BTW: Lori and Van are vaccinated and we have room to social distance here.**

**Masks optional, since we'll be outdoors most of the time.**

**DIRECTIONS:** From Sussex Hamfest - Turn right on Route 206 North, follow Route 206 past Stokes State Forest. Watch for Route 560 on left (doesn't go to right - vacant restaurant on far left corner). Turn left on Route 560 and cross Dingman's Ferry Bridge. Pay the nice man \$1 and thank him for letting you use his bridge (no EzPass). After the bridge, Route 560 becomes PA Route 739. Follow it 13 miles. You'll see a traffic light and a Weis Market. Just past the light, turn left into Hemlock Farms, keep right up the hill to the gate. Visitor Gate Keeper will provide a map or WAZE app will bring you right to the house. Or, someone can come get you and lead you in, if necessary.

**ADVENTURESOME?** If you're feeling adventuresome - after you get your pass at the gate, proceed straight on Hemlock Farms Road about 1/2 mile until you start down a LARGE DIP. At the BOTTOM of the dip turn left on Mountain View Drive. Follow it to the end at Forest Drive, Turn left and follow it until you see a small gatehouse ahead. Before you get to the gatehouse turn left on Lakeview Terrace. Look for 124 Lakeview Terrace (a green house, with lot of cars and balloons around). You're here. I will monitor 146.535 simplex.

**YOU MUST LET ME KNOW IN ADVANCE WHO AND HOW MANY ARE COMING (FOR FOOD PLANNING) AND WHO THE DRIVER IS, SINCE HIS/HER NAME WILL BE THE ONE REGISTERED. OTHERWISE YOU MAY BE DELAYED AT THE GATE.... LAST MINUTE DECISION? THAT'S OK TOO, YOU MUST LET ME KNOW, AS SOON AS YOU KNOW YOU'RE COMING.**



## What Is It? – Answer To Last Month's Question

By: Fred Belghaus W2AAB

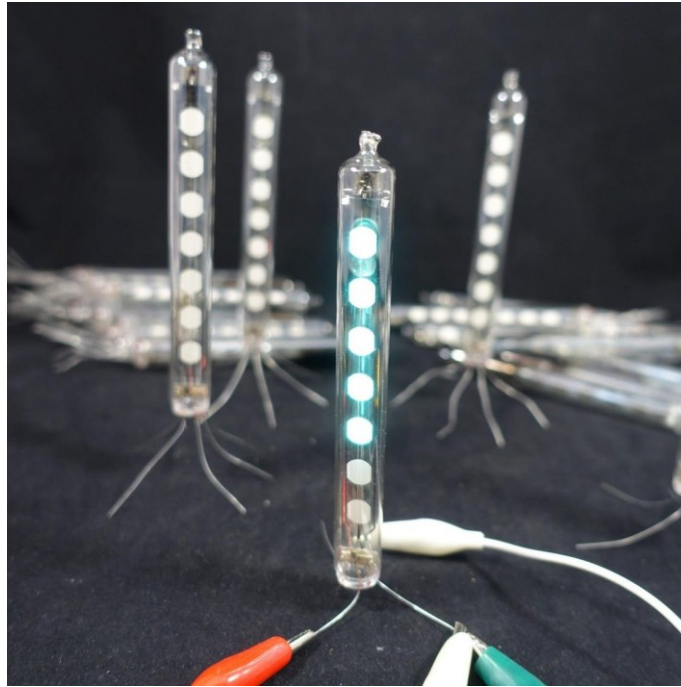


Image: etsy

You probably guessed that these are a type of “nixie” tubes, in which case you’d be on the right track. They’re actually green dot matrix type VFDs.

A VFD is a Vacuum Fluorescent Display, which operate on the same principle as a cathode ray tube (CRT), but at much lower voltages. They were a transitional display device, used after the older “nixie” tubes, and just before being replaced by LEDs.

Although vertically positioned in the picture, these are intended to be mounted horizontally in digital clocks. They were made in Russia, probably during the late Soviet era (late 1980s). Their nominal filament voltage is 3.15, and filament current is 80 milliamps. Constant grid voltage requirement is 25 volts, and pulsed voltage is 50 volts, with nominal grid current rated at 15 milliamps.

73,

Fred W2AAB

**What Is It? – July, 2021**

**By: Fred Belghaus W2AAB**



What could *this* be?

An R.F. choke for a medium power transmitter?

A vertical output adjustment coil for a 1950s TV set?

The winding for a relay or electro-magnet?

Maybe a precision, wire-wound resistor for a V.O.M.?

Uh... no.

Answer next month.

73,

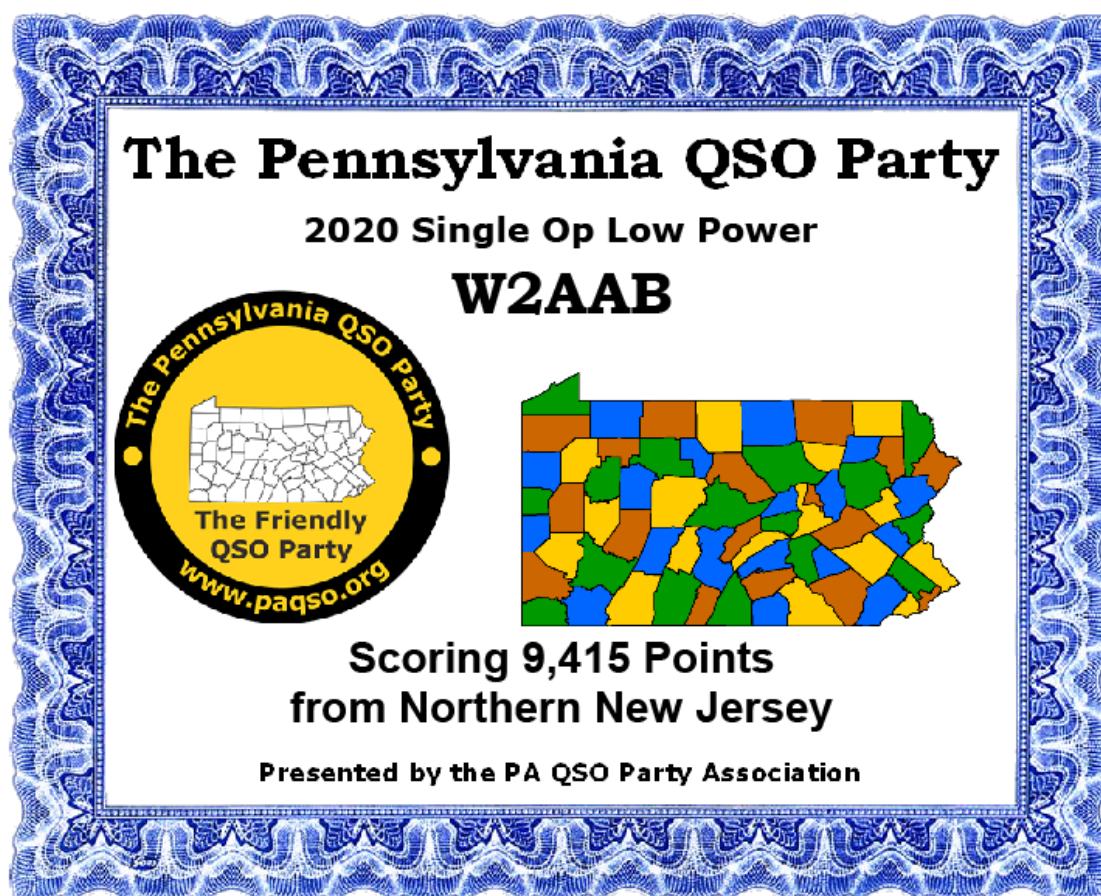
Fred W2AAB



## Many ways to enjoy our hobby —

There are many ways to enjoy ham radio ... The Resonator, and the Kawfee Tawks, introduce and describe many of the ways. There's repeater chatter, portable operations, satellite QSOs, various modes such as SSB, CW, FT8 etc. and even "shortwave listening" (monitoring). And for the more competitive of us, there are many contests to test our operating skills and our equipment – some are just to try for a high score, but others also "accumulate" credits for various awards, such as Worked All States, DXCC, Parks and Summits on the Air, and almost every U.S. state has a "QSO Party" in which you try to contact every county in the state as well as getting high scores.

As many FLARC members know, Fred W2AAB is one of our club's ardent contesters and he was recently awarded FIRST PLACE winner in the Pennsylvania QSO party - among operators in his class: "Single operator / Low Power" and here is the nice certificate he received as a result.



The New Jersey QSO Party is usually held in the Fall, and our club station W2NPT proudly displays several award certificates we have won in that event. A glimpse at the sponsor's web page leaves it ambiguous whether they will sponsor this event again in 2021, since the info shown still relates to 2020 — but if they do, it should occur on the weekend of September 18 - 19th. Maybe by that time we will be able to be back in the Rec Center and operate the contest from our very own CLUB STATION!  
[http://www.k2td-bcrc.org/njqp/njqp\\_rules.html#dt](http://www.k2td-bcrc.org/njqp/njqp_rules.html#dt)



## FLARC PortableOps SIG

PortableOps@FairLawnARC.groups.io

This is a Special Interest Group (SIG) for members interested in portable ham radio operation such as POTA, SOTA, IOTA, LOTA, etc.

The purpose of this SIG is to get outdoors and practice our operating skills from different places. We can share outing experiences, tips and work on our operating skills.

This Field Day weekend several members of the Portable Ops SIG and myself, Nomar NP4H, Steve KA2YRA and even Jim KB2FMH (who came out all the way from Brooklyn) got together on Saturday and operated portable from Liberty State Park K-1623 in Jersey City before Field Day started. And on Sunday, I met with Steve KA2YRA and Kevin K2KCC at Ringwood State Park K-1630 to make some FD/POTA contacts.

We had a good time, the weather was nice and we practiced our emergency operating preparedness skills.

Noel Pagan  
W2MSA



Nomar NP4H

## Report from Portable Ops SIG, cont'd



Noel W2MSA and Nomar NP4H



Nomar NP4H and his little friend



Steve KA2YRA, Jim KB2FMH, Noel W2MSA



**Fair Lawn RACES/ARES Corner, cont.**

on Wednesday, July 14th at 2030 hours on the Fair Lawn ARC Repeater as well as the NJ2BS Repeater (frequencies noted above).

Thank you to the Fair Lawn Amateur Radio Club for permitting FL-RACES to use the repeater.

FL-RACES is part of several RACES groups which operate within Bergen County and from time to time has training opportunities with Bergen County RACES. We were the Net Control Operating Station for the BC-RACES Net on May 26, 2021 at 7:45 PM and will be the Net Control Operating Station once again in November. Thank you to those who have taken part as the Net Control Station in the past. Our monthly briefings will take place soon at the FLARC in person!!

Stay tuned. Please join us for the next FL-RACES briefing which takes place after the FLARC Business Meeting. The volunteer efforts of our members are very much appreciated. If you are interested in joining the Fair Lawn RACES, please contact me. Anyone who's a licensed amateur radio operator may join Fair Lawn RACES and there's no residential requirement. For information regarding Bergen County RACES, please go to <http://www.bcnjraces.org>. Please be safe and be well. Thank you very much. 73.

David KD2MOB, Emergency Coordinator FL-ARES and President FL-RACES

**From The President, continued.**

appreciation to Bill Kelly NB1LL for setting up this session and offering his time and knowledge to benefit our wonderful hobby.

We hope to have a good number of attendees, and from there new amateur radio operators. If you need more information, you can contact Bill at NB1LL@arrl.net or me at NP4H@arrl.net. Please spread the word.

I wish you all a wonderful July... I will be for two weeks in KP4 land, so I hope to work some of you on the HF bands. I'll let you know when I'm on the air.

Take care everyone...

Stay safe and healthy!

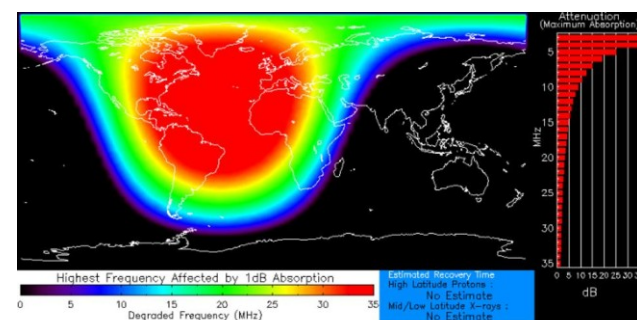
73,

Nomar, NP4H

FLARC President

**The strongest solar flare seen in four years**

erupted from the surface of the sun early Saturday and smacked into our planet's atmosphere eight minutes later.



Strong X-ray flux  
Product Valid At : 2021-07-03 14:31 UTC

Normal Proton Background  
NOAA/SWPC Boulder, CO USA

The map shows where the blast of x-rays from the solar flare impacted the atmosphere the strongest.

NOAA/SWPC

Anyone else experience the radio blackout this morning ? I was on the band when it happened. I was calling K4AAE/P on 7.278 who was on SOTA W4C/EM-029 Big Elk Mountain in North Carolina. He was coming in well, then disappeared after I called him. ... Thought the receiver in my radio had went, so I tuned up and down the band and couldn't find a single station transmitting. It was the weirdest thing I ever experienced on the radio. — Brian N2BTD

## Theoretics Demystified

This time for something again different, how about phototubes. To begin with you need to know that light is unique, it has the properties of a wave and those of a particle, thus making them different than radiation of other wavelengths.

Sometimes they are called wavicles, clever, huh?

Our eyes receive photons and convert them to electrical signals that our brain interprets as a picture that we see.

Anyway, either way it is electromagnetic radiation that we are dealing with. We take our sight for granted, but what a wonderful gift it is!

Getting back to phototubes, there are two basic types, vacuum types and those with low pressure gas inside usually argon or neon, both rare noble (think inert or non explosive).

This is where the electronics comes in. The phototube was invented in 1893, and consists of a photosensitive cathode and an anode. A small positive voltage is applied to the anode and the negative to the cathode with usually a resistor in series with the tube.

In operation there is a current that changes in response to the amount of light falling on the photocathode which needs to be in sufficient quantity to cause enough electrons to be swept away from the cathode to the anode to make a measurable difference in the current flowing in the series resistor so that a useable voltage drop can be seen across that resistor and thereby become a useable factor in amplification or control. Phototube dynamics dictate that the cathode material determines the spectrum sensitivity — infrared, visible or ultraviolet.

The type of glass used in making the tube envelope and the incidence angle of the light hitting the tube are all factors along with the electrical parameters involved. Higher voltages can be used in gas filled tubes but if too high the tubes can begin to glow on their own.

The higher the voltage the greater the sensitivity and therefore a larger value series resistor can be

## Theoretics Demystified, continued

used with a resulting higher voltage drop across the resistor and a more useable parameter for measurement and or control.

Then there are photomultiplier tubes which operate similarly but have multiple cathodes. How they work is this: a photon hits the first cathode, it knocks off two electrons which hit another electrode called a dynode; each time the resultant knocked off electrons hit another dynode more electrons are knocked off thereby multiplying the effect of the single photon hitting the photosensitive cathode.

Up to fourteen dynodes can be used with a gain of almost ten million, seems like an astronomical amount but when you consider what the effect of one photon is, not so much. There are focusing electrodes used to keep the electrons from going astray. A photomultiplier tube is indeed a complex thing but even so the efficiency is only about thirty percent.

Besides that there is the 'dark current' to deal with, which is like a bias on the output signal.

Well back to basics, the lowly phototube, it was used in 'electric eye' door openers, to 'read the sound track on projected movies and in very early mechanical televisions. Nowadays we have solid state devices that perform the same feats of magic.

Ever wonder how that large dial on you rig tells the radio that you are going up or down the band? A photo device with a transparent wheel with clear and dark lines like spokes on a bike wheel! That is why you can turn that tuning wheel with the radio off and it makes no difference!

When you think of the phototubes and what they do, then our gift of wisdom becomes all the more fantastic.

73,

Fred Wawra W2ABE



## In A Nutshell



Things are getting back to some kind of normal. Fair Lawn Amateur Radio Club has had their hamfest, so has Split Rock and Sussex will have theirs and then will be the New Jersey Antique Radio Club - which is more than fifty percent hams.

Field day was also had by some of the clubs. It is not a contest but a time to practice preparedness and to socialize and have fun. Since it was outside there were no problems that I heard of.

I have been 'visiting' other hams on 75 meters almost every night and TALKING

to other hams, visiting so to speak. Besides, it keeps the birds off of the antenna.

In the last few weeks I have made many new friends on the air. Soon we will be able to get back to the club to be with each other and learn from each other, so get on the air - especially if you do not yet feel like you want to socialize.

There is EchoLink if you want to get on our 'Near and Far' net, so get 'RadioActive!

73

Fred Wawra, W2ABE



Sussex County Amateur Radio Club Inc.  
Augusta, NJ 07822

**July 18, 2021**

**2021 SCARC HAMFEST**



**Lori & Van W2DLT - VANFEST**

**Sunday July 18, 2021 - Noon to 5 - RAIN OR SHINE!**

---after the Sussex Hamfest---

Hey Fair Lawn Amateur Radio Club (FLARC), FRC and friends... You're all invited for FOOD-FUN-RELAX-RADIO - even if you aren't going to the Sussex Hamfest!



## July 2021

### FLARC Business Meeting

**Fairlawn Amateur Radio Club  
Secretary's Minutes Prepared by Tom McCabe N2AXX  
Business Meeting of July 2, 2021**

The meeting was called to order by President Nomar Vizcarrondo, NP4H via Zoom video teleconference at 7:30 pm and concluded at 8:40 pm.

Pledge of Allegiance was recited at 7:31 pm

Tom N2AXX facilitated a roll call and a quorum was established:

|                 |                         |
|-----------------|-------------------------|
| President:      | Nomar Vizcarrondo, NP4H |
| Vice President: | John Howard, W2JLH      |
| Treasurer:      | Bruce Kalogera, NJ2BK   |
| Secretary:      | Tom McCabe, N2AXX       |
| Trustees (3):   | Don Cassarini, K2PD     |
|                 | Ed Efchak, WX2R         |
|                 | Fred Wawra, W2ABE       |

Note: 34 participants attended this Zoom video teleconference

June 2021 FLARC Business Meeting Minutes were published in the June 2021 edition of The Resonator. A motion to accept the minutes as published was moved by President Nomar NP4H and seconded by Don K2PD, and accepted by the membership.

#### **Treasurer's Report:**

Presented by Bruce NJ2BK and included the net income from the FLARC Ham Fest. A motion to accept the financial report was presented by Fred W2ABE and seconded by Gene WO2W, and accepted by the membership.

**NOTICE: Please pay your 2021 FLARC dues.** Renew, stay active, and support FLARC!  
Payments may be made through check, PayPal, and Zelle. Contact Bruce NJ2BK.

**Visitors:** None

#### **Committee reports**

##### **Technical:**

President Nomar Vizcarrondo NP4H reported that once the FLARC clubhouse reopens that the FLEX 6400 radios will require software updates. BrandMeister will not be allocating a FLARC vanity Talk Group ID based on Brad KM2C's TG-310015. Contents of the July 2021 edition of The Resonator will contain Bob KD2BKD's TGIF network and trunk connectivity details.

Continued on next page.

## June 2021 FLARC Business Meeting, continued

### Publicity:

Ed WX2R reported on two Kawfee Talks for July 2021. Neil W2NDG will present an overview on Kit Building July 16. Barry K3EUI will present a *part 2* of Sound Cards, Digital Modes, and EMCOMM Digital on July 23. Barry K3EUI and Ed WX2R are finalizing dates for a detailed NanoVNA presentation over two Saturdays in November 2021. 12 Kawfee Talks are booked through year end 2021. Ed WX2R reported that the First Annual FLARC Ham Fest was a big success and kudos were extended all around for people talking up the event, dropping off flyers, helping with set-up / tear down, facilitating the event, and the overall fun. Good feedback from the attendees and vendors continues. 2022's Second Annual FLARC Ham Fest is already in the thinking, planning, talking stages. Special thanks to Gene WO2W and Dave KD2JIP for their effort with the Ham Fest web site, and payment routing.

### Webmaster:

Jim W2JC recognized Dave KD2JIP for his effort with the FLARC website. There are 155 registered Groups.IO users with six Special Interest Groups or SIGs. June saw 1,232 unique visitors to the FLARC web site. There are 483 followers of the FLARC Blog with 98 visitors in June. Jim reminded everyone to check the FLARC website often for events and news.

### Social Media:

No formal report. It was noted that FLARC Facebook is alive and well.

### RACES/ARES:

Dave KD2MOB reported that radio coverage for the Fair Lawn Fireworks Display will be provided July 6, 2021 starting at 6:15 pm at the Fair Lawn pool. July 17, 2021 at 10-10:30 am there will be a portable radio test on 146.535 MHz simplex. The objective is to assess simplex communication in and around greater Fair Lawn. RACES/ARES members that mobilized for ARRL Field Day 2021 to operate under their own call signs were recognized.

### Field Day:

John W2JLH affirmed FLARC's position to postpone a 2021 ARRL Field Day operations as W2NPT. The club's decision was based on COVID-19 guidelines in early 2021 around the time planning would start for a successful Field Day operation. A lot of time and effort is needed for the 2-day, 48-hour operation. 2022 ARRL Field Day is already under consideration. John emphasized the need for people to step up and help! It is not "...driving to the park, making one or two contacts, eating, talking to club members and going home..." A call to action was made for 2022 to stage equipment to be mobilized, transporting tables, chairs, tents, and radios, defining operators and shifts, the overall set-up and tear-down.

### VE Sessions:

Gene WO2W reported that there will be a testing session July 10 at the Ridgewood Masonic Lodge. There are 5-registrants as of July 2<sup>nd</sup>.

**Note:** Rec' and Senior Center usage is pending final confirmation from the borough manager.

### Special Interest Groups

**Monitoring:** Dave N2AAM reported that Larry Van Horn N5FPW will be making a presentation on monitoring August 20<sup>th</sup>. Details were TBD.

Continued on next page.

## **June 2021 FLARC Business Meeting, continued**

### **POTA:**

Activity is booming amongst numerous FLARC'ers! Nomar NP4H hopes to activate **K7557**, Parque Nacional de Cerro Gordo State Park in Puerto Rico July 10<sup>th</sup>.

### **New Business**

Joel Miller has reached out to FLARC to mentor / "Elmer" an 8-year old potential ham. Nomar NP4H and or John W2JLH will be reaching out for additional detail to support the request. Jim W2KNG reminded the FLARC membership that there should be 2-people present at all times with any youth activity.

Technician License classes will be held July 31<sup>st</sup> and August 1<sup>st</sup> by Nomar NP4H and Bill NB1LL. Bill will facilitate the classes. Classes will be held at the Secaucus Masonic Lodge: 1422 Paterson Plank Rd, Secaucus, NJ 07094. Contact Nomar NP4H for details.

Community projects will be a topic for the August 2021 business meeting.

### **Health & Welfare:**

Skip KD2BRV expressed his sincere thanks for all of the cards, thoughts, and prayers going out in support of his wife's cancer. Skip reports that the doctors are pleased and that his wife is well and on the road to full recovery.

### **Comments:**

Charlie AC2ZU reports good feedback on FLARC's Civil Air Patrol presentation and that Ocean County College enjoyed the material and is working with local schools regarding CAP participation.

Vince KD2TMJ reported on the progress of an amateur radio SatCom station located at a Sussex County school. Middle school students will be adding amateur radio work to their STEM classes and summer 2021 STEM summer camp. Ria N2RJ is supporting this work in Sussex County. Testing with the ISS will begin soon.

Birthday wishes were extended to President Nomar NP4H.

### **Adjournment:**

A motion to close the meeting was presented by Nomar NP4H and seconded by Dave N2AAM.